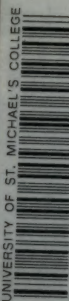


UNIVERSITY OF ST. MICHAEL'S COLLEGE



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PREHISTORIC MAN IN AMERICA

DEAN HARRIS



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PREHISTORIC MAN IN AMERICA

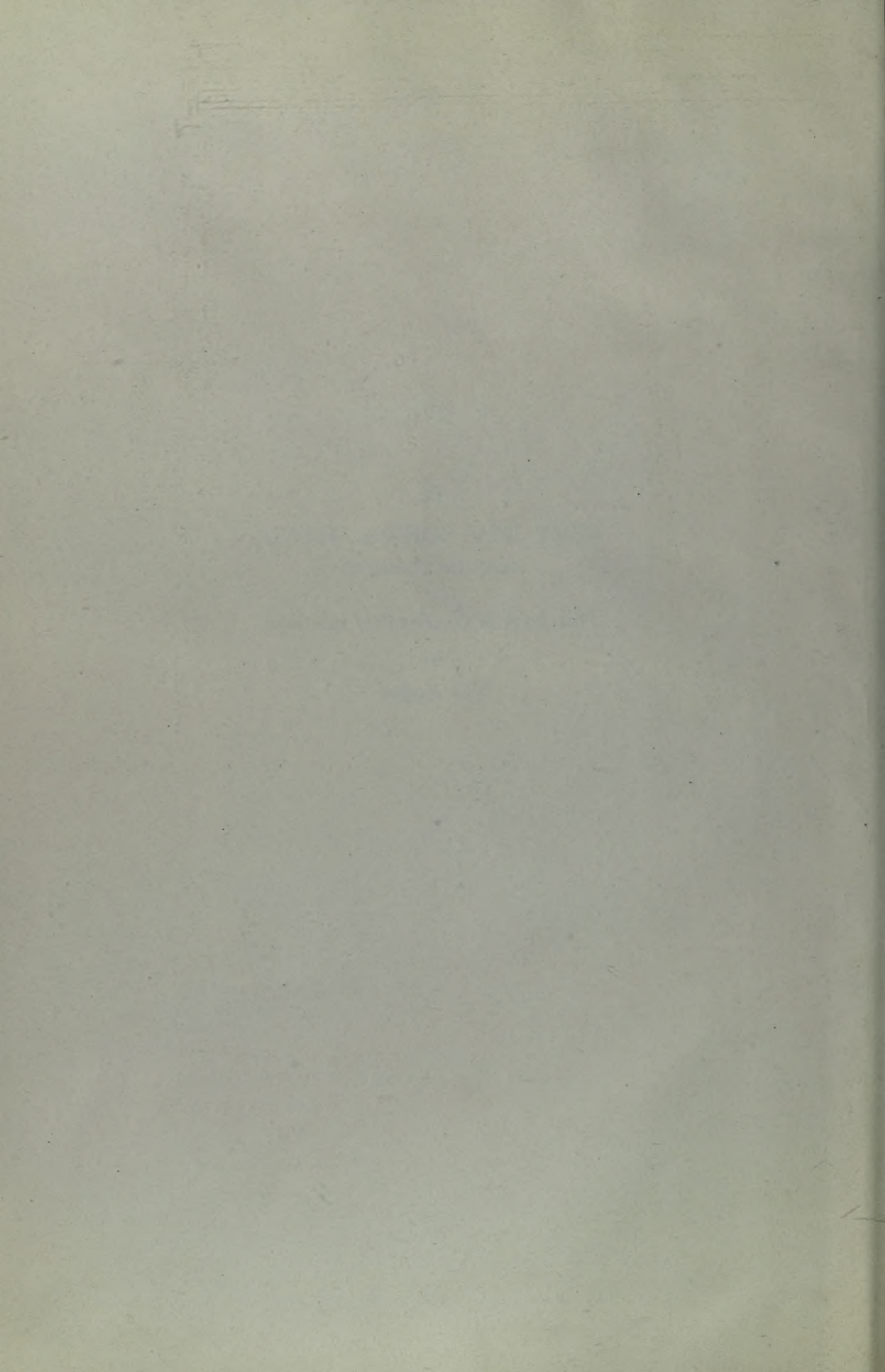
BY
DEAN HARRIS

REPRINTED FROM ARCHÆOLOGICAL REPORTS.

Printed by
THE RYERSON PRESS

To
VERY REV. JOHN L. HAND,
DEAN OF TORONTO

This book is affectionately inscribed
by
The Author



PREFATORY NOTE

A considerable portion of the contents of this volume has, in substance, already appeared in print in the form of articles contributed to the Ontario Archaeological Reports.

Having in mind the judicious remark of a friendly critic who had read the proofs of my essay on *Primitive Man*, I have tried to eliminate from this book many technical terms and expressions with which the general reader may not be familiar. However, I trust the work will be found scholarly enough to be helpful to the student of prehistoric times.

It only remains for me to thank the Honourable the Minister of Education, and Doctor Rowland B. Orr, Director of the Provincial Museum, for permission to reproduce these contributions to archaeology in their present form.

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Earth's first Man:

By Very Rev W R Harris D.D:LLD

I

"Man's primitive condition was that which corresponds to the lowest type extant, the Australian and Papuan; the further back enquiry is pushed, such culture as exists is found to have been preceded by barbarism. The savage races of to-day represent a condition out of which all races above the savage have emerged."

—"Pioneers of Evolution," Edward Clodd.

If St. Paul warns us against perplexing ourselves with vain and endless genealogies, it may be thought that the study of prehistoric man is included among those of the Pauline vanities. It seems like a waste of time to trouble ourselves with prehistoric man. We know nothing and—waiving the second chapter of Genesis—can know nothing of primitive man. With Professor Branco we can safely say: "We know absolutely no ancestors of the human race, for all fossil remains of human beings are the remains of genuine men, such as we are now."*

It is impossible to discuss anthropology with a man who goes back two or three millions of years for his facts. Moreover, the Christian, when meeting the objections of popular scientists, has a right to demand arguments more cogent than the "it is probable" of Professor Osborn: "possibly a million of years" of Dr. Wallace; or the "may bes" and "might bes" of Professor Elliott. A thousand "may bes" and "probables" are not proofs and until those who oppose Christianity furnish us with something more tangible than suppositions we refuse to reply specifically to their objections however specious, plausible, or damaging they may seem. Few minds, even of a superior order, consent to burn their idols, and for want of arguments they suppress truths opposed to the opinions they hold; they quibble, but do not surrender. Back as far as 1809, the French naturalist, Lamarck (Antoine de Monet) founder of the school of organic evolution, essayed to prove that, in remote ages of the earth, nature developed varieties of beings from species, which varieties became in time distinct species. He contended for successive or progressive links of production till, in time, man himself was evolved from a beast. He also asserted that the higher attributes of the human mind were but the expansion of the faculties of brutes and differed only in quality from the sagacity of apes and dogs.†

From the beginning of history until our own day we have not been able to discover any such development as Lamarck, the founder of evolution advocates. The beaver builds his house just as he did ten thousand years ago, the bee

* Address before International Zoological Congress, Berlin, 1901.

† "Philosophie Zoologique," Paris, 1829.

constructs his comb precisely as he did when the Greeks were thundering at the gates of Troy, and the ant has not changed itself or its habits since Solomon advised man to go to him for encouragement to industry.

In 1832 Benjamin Constant startled his generation by reviving the theory that the first man was a savage. He published a book to prove his contention, and, after building up a wonderful structure of plausibilities, possibilities, sophisms and arguments, rested his case. Constant, at once became, like Theodas, a "somebody," and his followers relegated to the ash heap, as exploded doctrines, the Biblical account of creation, the birth of Adam, original sin, and the Redemption of Man. Then came Auguste Comte, who in a series of wonderful chapters, pulverised the arguments and citations of Constant, and proved beyond the possibility of a doubt that man was evolved from an extinct lemur whose fossil remains were found in Madagascar. About 1860, Scotch and English philosophers, scientists, and anthropologists, began a very stubborn and menacing attack on the veracity of the Biblical narrative of the creation of man, the immortality of the human soul, and man's accountability to a Higher Power. Charles Darwin, Herbert Spencer, Stuart Mill, Professor Huxley, Sir John Lubbock, and lesser lights, attacked the Mosaic account of the origin of the human race and challenged the inspiration and authenticity of the Bible itself. But in time, the air clarified itself, and, to the surprise of the philosophers of science, the stubborn Scotch and English nobility and people stood four square in defence of Christianity.

In the United States Dr. I. W. Draper and Professor John Fiske, of Harvard, allied themselves with the Darwinian and the Spencerian battalions. Dr. Draper in his very clever and persuasive book "Human Physiology, Statical and Dynamical," traced the origin of man back to a molecule—an almost infinitesimally small substance—and its development in millions of years into a man. Dr. Theodore Nicholas Gill, Dean of American Naturalists, said to be one of the most learned of American biologists, declared in a lecture on "Our Ancestors Before the Ape," delivered in Salt Lake City in 1905, that: "If we go back beyond the mammals and fishes, amphibians and dipnoans, we are confronted with a vista of interminable length, through soft bodied forms extremely different from anything now living, but resembling a skull-less translucent vertebrate, or a sea squirt which we find attached to stones and shells. Man's further ancestry is lost in an indefinite and innumerable series of worm-like things belonging to the earliest period of our earth's history. It now remains for some professor with a reputation to fearlessly assert that man never had a beginning, but always was, and then this interminable dispute over man's origin will, like the longest day, come to an end.* After the stormy days of Rousseau and Von Holbach, writers, calling themselves scientists, ontologists, traditionalists, and liberals, launched with great polemic ability attacks against Christianity, which have been triumphantly repulsed. In the early part of the nineteenth century Christianity was attacked in its separate members and parts, but to-day the citadel itself is threatened and supernatural religion as a revealed, historic, or philosophic creed, is now on its defence.

Since the time of the Roman persecutions there has never been a period demanding from the apologists of revealed religion a more encyclopedic or critical scholarship than the age in which we are now living. Ministers of religion, professors in universities, and members of many societies of learning and research have consciously or unconsciously encouraged atheists, deists and rationalists in their war on religion—a war which owes its popularity not so much to the prominent

* Appendix, Note I.

names of its leaders as to a craving for "vain things" and a determination to destroy all belief in the supernatural.

Free thinkers, deists, agnostics, atheists, skeptics, rationalists, natural scientists, and an army of magazine writers inflated with the ideas and expressions of men cleverer than themselves are in the field, and, if Christianity be perishable it is doomed to death, even if fated not to die.

As a consequence of the sermons, addresses and writings of these ambitious men, whose attacks on the Mosaic records are circulated by newspapers, magazines and the socialist press, the masses are losing faith in the existence of God, in rewards, and punishment for sin, and in the immortality of the soul. In time morality must disappear, national character suffer and civilization itself be imperilled.* For all history proves that, without religious sanctions and decrees, morals decline and civilization itself decays. The foundation of all morality is religion, for it is a fundamental principle that the civilization which believes and worships God lives, and that when it loses this belief and worship it decays and dies. Beyond contradiction religious belief possesses a "survival value;" it is the mortar holding the units of a nation in social harmony. Even the heathen knew this. "Let us flatter ourselves as we will," said Cicero, "we shall never surpass either the Gauls in valour, or the Spaniards in numbers, or the Greeks in genius, but by religion and the fear of the gods, we excel all the nations of the world."

The polemic ability and the skill with which a full division of arguments and plausible proofs is mobilized to attack the Christian trenches is marvellous. Perhaps the most serious and threatening danger to supernaturalism comes from the camp of the philosophers of science who profess to ignore the reality of Christianity and a belief in a revelation. They are satisfied to search for truth in the material, or cosmic order, ignoring altogether the existence or even the possibility of a spiritual world, and, dethroning priests of religion, they establish a hierarchy of science. What Christians call Revelation they brand as superstition and that which Christians deplore as infidelity the scientists glorify as independent thought. "Science," writes Tolstoy, "losing the religious foundation, turns to the study of nonsense and mainly ceases to study the important, since there came into existence the experimental science. But there is one eternal, universal teaching of truth for me, for all of us, especially clearly expressed in the Gospels. As soon as one understands this teaching he enters into a union with God, and there is nothing that I can tell him."†

Another class of men, who have achieved reputations in mechanical art and inventive science, laugh down and ridicule what they are pleased to call "pretensions of Christians." Success in accumulating money or in constructive art emboldens these materialists to speak with authority on the most profound problems, involving the existence of God, the immortality of the soul and the duration of eternity.

Because a man knows something of electricity and chemistry, or of granite, gneiss, feldspar, mica, silix, and borax and can talk learnedly of mineral deposits and of the different geological ages of our earth, must it also be assumed that he is eminently qualified to intelligently discuss and solve abstruse problems of theology, philosophy, history and civilization?

* Note 2.

† "Tolstoy's Diary," Oct. 14, 1897.

Lately there has appeared around the arena of polemics a timorous aggregation of clerics aspiring to reputations and calling themselves members of the "School of Higher Criticism." The "School" is composed largely of the pastors of fashionable churches, and of university professors without any denominational affiliation or any distinctive creed. With their eyes open and with full deliberation they are contributing their eloquence and learning to the destruction of all that makes for the permanency of Christianity. In his great speech, delivered at Oxford, Nov., 1864, Mr. Disraeli, afterwards Lord Beaconsfield, does not hesitate to stigmatise the members of this school and their views as enemies to Christianity, to the permanency of the British Empire, to law and order. After dwelling on the unrivalled extent of the Empire, the decay of faith among the English masses, and the attacks on the Bible insidiously delivered by some within the Christian camp, he continues: "Will these opinions (those of scientific Biblical criticism) succeed? Is there a possibility of their success? My conviction is that they will fail—for two reasons. In the first place, having examined all their writings, I believe without any exception, whether they consist of fascinating eloquence, diversified learning, and picturesque sensibility—I speak seriously what I feel—and that, too, exercised by one honored in this university, and, whom to know is to admire and regard (Dean Stanley); or whether you find them in the cruder conclusions of prelates (Bishop Colenso) who appear to have commenced their theological studies after they have grasped the crozier, and who introduce to society their obsolete discoveries with the startling wonder and frank ingeniousness of their own ravages; or whether I read the lucubrations of nebulous professors, who seem in their style to have revived chaos, and who, if they could only succeed in obtaining a perpetual study of their writings, would go far to realize that eternal punishment to which they object; or lastly whether it be the provincial arrogance and the precipitate self-complacency which flash and flare in an essay or review, I find that the common characteristic of their writings is this—that their learning is always second hand."*

At a time when a certain brand of infidelity had become fashionable, and was deemed a mark of distinction in the London clubs, Disraeli fearlessly challenged the intellectual saneness of society. With all the strength and power of his eloquence he contended that: "Whatever man may be biologically or physiologically he is something more; and this something more, which transcends all biological and physiological science, is the most essential and distinctive part of his being." "The scientific world," writes Mr. Buckle, is now coming around to Disraeli's opinion." The course of events, Mr. Buckle adds, has largely justified the prediction spoken in 1864, that "The Teutonic rebellion against the Divine truths entrusted to the Semites" would ultimately meet with the fate of "the Celtic Insurrection of Voltaire and the Encyclopedists." And he further adds that the inability of science to take the place of religion is much more widely admitted than it was in the days when Huxley and Tyndall flourished. All of which goes to show that no matter how powerful or crushing the forces of materialism may be, in the end the moral and spiritual forces, which give character to a people, survive and triumph.

There was never a time in the history of Christianity when believers in Revelation looked the enemies of the Supernatural more steadily in the face than to-day. Christianity stands now, as in the time of Julian, the Apostate, for

* "The Life of Benjamin Disraeli, Earl of Beaconsfield." Vol. IV, p. 372. The Macmillan Co., New York, and Lord Beaconsfield. J. H. Froude, p. 175. Samson, London.

absolute freedom of discussion and candor in scientific, historical and critical investigation. Devotion to Christianity does not close our eyes to the discoveries and results of recent scholarship, or to the achievements of science; we have carefully studied them, but in no instance have we found any evidence or argument against our faith in Revelation. The boast of the German freethinker, Von Holbach, that "Science has seized religion by the hair and branded indelibly on her forehead the mark of failure," lies buried in the grave with the Franco-Prussian scoffer.

We are satisfied that the author of Revelation is also the author of science* and that in the final analysis Revelation and science will fuse into a divine unity. The truth of God in the supernatural order has nothing to fear but everything to hope from the progress of science. We are firmly convinced that God is the beginning and the end of the natural and the supernatural and that the comparison of His works in both orders must necessarily give a uniform result.

We insist, however, that scientists deal with facts and not with suppositions, facts made sure by observations and obtained by careful and repeated experiments. We hold in high esteem the men who search for truth in the natural order, but, with Chateaubriand, we look upon the man who deliberately lies, or who deals in coward acts of mean expediency, to lessen respect for God and sacred things, as an enemy of the human race.

"Everyone," writes the author of the "Genius of Christianity" "whose conduct is noble, whose sentiments are elevated and generous, who does not stoop to a mean act, and preserves a lawful independence of mind is respectable whatever his creed or opinions may be. But the man, by whatever name he may call himself—philosopher, theologian, or scientist who deliberately attempts to corrupt truth, and endeavours, by misrepresentations, calumnies and suppressions to cast odium upon or bring into contempt that which is held sacred by his neighbours, is worthy of the contempt of his fellow man."†

Science is in possession of its own territory, but beyond that territory lies a whole region of enquiry, on which it has, and can have, no right to trespass. "Science," said Sir Oliver Lodge in his address to the British Association in 1903, "is undoubtedly an affair of the intellect; it examines everything in the cold light of reason and that is its strength." But Divine faith is above reason, it is supernatural—above nature—and, therefore outside the domain of science.‡ The real scientist, before entering upon his chosen field will dismiss all prejudice, all animosity and dislike for creeds and persons and bring to his investigations and independent mind, for "the kernel of the scientific outlook," writes Bertrand Russel, "is the refusal to regard our own desires, tastes, and interests as affording a key to the understanding of the world."

No great scientist of the past or of to-day has discovered anything contradicting the philosophic truth that God exists or that the soul is immortal. If the discoveries of science have at all affected these truths it is to add vividness and cogency to the argument from design by manifesting the marvellous order existing in our material world, and the superiority of mind over matter.

* "God is the Master of Science"—"Deus Scientiarum Dominus est."—I Kings ii. 3.

† "Les Martyres"—Introduction.

‡ "Strong Son of God, immortal Love,
Whom we, that have not seen thy face,
By faith, and faith alone, embrace,
Believing where we cannot prove."

Tennyson's "In Memoriam."

The *masters* of science have not denied the existence of God or the immortality of the soul.* Men of little minds, or men trained along the single line of observing things of sense alone, deny these essential truths. Not finding the soul in a test-tube and failing to observe God reacting to their reagents, they conclude there is neither God, nor immortality. The spiritual world is beyond their conception. Many of them have been influenced, possibly unconsciously, by the prevalence of the assumption that one mark of learning is the denial of honored truths. The study of a little psychology and natural theology would convince them that the great truths they profess to deny belong to the realms of pure philosophy and theology and are no less scientifically demonstrable than are specific gravities.

The emphatic and solemn injunction delivered to the sages of the Jewish Sanhedrim by the venerable Gamaliel, stands to-day in its prophetic character as menacing as it was two thousand years ago, when the Apostles preached in the vestibule of Herod's Temple. "Ye men of Israel, take heed to yourselves what you intend to do . . . for if this council (the Christian Church) or if this work be of men it will come to nought. But if it be of God, you cannot overthrow it and you may be found fighting against God."

—Acts of the Apostles, Chap. V.



First man and woman. Genesis, Chap. 1.

A HISTORIC PARALLEL.

While discussing man's origin, on rational principles, it is most important to distinguish between ascertainable facts and scientific hypotheses. Scientific suppositions, dealing with early man, have been so eloquently exploited and popularized that people are disposed to accept them as facts of anthropology. It demands great courage in a writer to deny that all men in very remote times were savages, but as far as history goes back—and beyond history is nebulousity and chaos—we know that civilized man always was. "Everything" writes the oriental traveller,

* "I may say that in my opinion true Science and true Religion neither are, nor could be opposed."—*Lord Rayleigh*.

"Between the essential truth of Christianity and the established facts of science there is no real antagonism."—*Sir William Ramsey*.

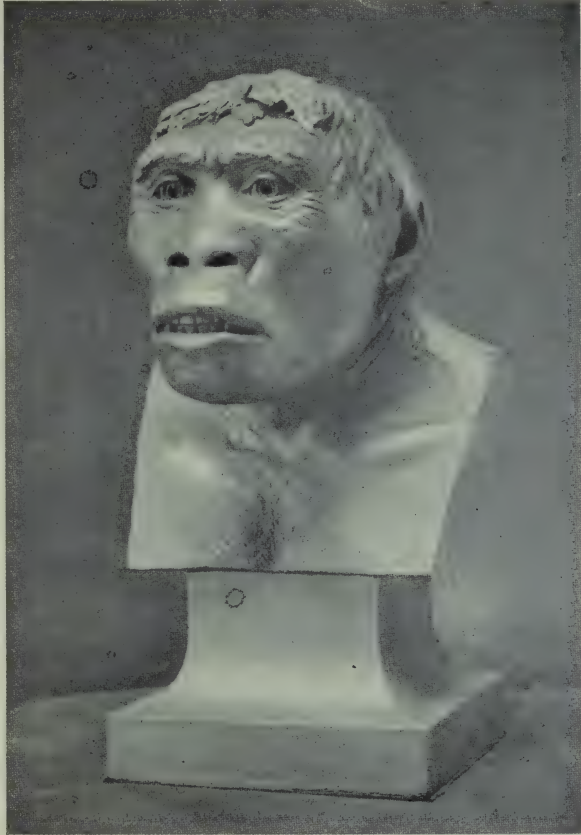
"There is not and never can be any opposition between Science and Religion, any more than there can be any between Grammar and Religion."—*Professor James Ward*.

Citations from Arthur H. Tabrum's: *Religious Beliefs of Scientists*. Hunter & Longhurst; London, 1913.

Dr. Stein, "everything I saw in China was to me evidence of the immense antiquity of a high civilization and of the artistic development of the East."*

Dr. A. T. Clay, Professor of Oriental literature, Yale University, is of the same opinion when he writes: "Above all else, one of the greatest surprises is that the earliest peoples, instead of being barbarous or uncultured, were civilized and possessed a culture of a high order."†

Portions of the Bible excepted, history shows us civilization and barbarism existing side by side from immemorial time as they exist side by side to-day,



Primitive Man, the *Pithecanthropus Erectus*. A conception of J. H. McGregor of the Ape-man of Java.

and this, in the words of Sophocles, "is not a matter of to-day or yesterday, but hath been from all time, and none can tell us when or how it came."

When a writer has lost faith in the supernatural and surrenders himself to sceptical theories there is no limit to which he will not go to support his own views. No man may be called a scientist because he accepts as a certainty that

* "Oriental Travels," London, 1869.

† "Pushing Back History's Horizon," Philadelphia, 1916.

which is but a theory—such, for example, as the evolution of man from a worm or the ascent of civilized man from a savage. For science, if it means anything, implies demonstration leading to stern truth. Huxley in his "Collected Essays" left us an advice that may help to perpetuate his memory. He says: "Give unqualified assent to no proposition the truth of which is not so clear and distinct that it cannot be doubted."

Now the evolution of man from what Herbert Spencer terms a "highly differentiated portion of the earth's crust and gaseous envelope," or what Dr. Theodore Nicholas Gill, Dean of American Biologists, calls "a worm-like thing belonging to the earliest period of our earth's history," or his ascent from a prehistoric savage, is far from being a demonstrated fact. Nor will we admit, in the face of the philosophy of common sense, that these theories are, as Mr. Edward Clodd claims, "self-evident."

SAVAGE MAN.

The attack on the Mosaic account of the creation of man, was opened in modern times by Voltaire. In his "Philosophy of History" he contended that the human race had its beginning in a condition approaching, and, in some respects, inferior to that of beasts. He wrote: "Not only a prodigious extent of time, but fortunate conditions also, are necessary that man may raise himself above the life of animals." Voltaire led the way in paths which, now well trodden and familiar, were then comparatively unopened. Since the days of the "Philosopher of Ferney" the sense of unbelief and unrest has become one of the chief characteristics of our age.

There seems to be a determination on the part of our generation not only to inherit and perpetuate the errors of all preceding times, but to do away with the supernatural entirely. New sophisms of surprising ingenuity and new seductive arts are invented to augment specious arguments of assault which have been a thousand times victoriously answered and refuted. It is a perpetuation of the Voltarian protest against the Providence of God, which, with great force and ingenuity and with exceptional vehemence and animosity mournfully marked the eighteenth century as an age of unbelief.

If, with Virchow, Eric Wasmann and Zittel, we cannot hold as one of the results of scientific research the doctrine that man is descended from an ape or from any other animal, neither can we accept the contention that primitive man was a savage. Lyell's triumphant refutation of Lamarek's theory of the origin of man and the Duke of Argyle's demolition of man's descent from an ape practically ended a controversy which threatened the peace of England. The opponents of Revelation having almost unanimously abandoned the Lamarekian descent of man, are returning to the Lucretian theory of the primitive savagery of the human race.* As the search for the Pithe—the animal intermediary between man and the ape—has proved a hopeless failure, the priceless gift of

* "Yet man's first sons

. . . the wild lives of beasts

Leading with missile stones hunted

and in caves dwelt:

Their naked limbs with herbs

And leaves entwining."

—Lucretius, "*Natura Rerum*."

speech, possessed by man alone, ought to be enough to preclude the possibility of man's descent from a beast and his primeval savagery.

The belief of the Christian is that savage man is a retrogression and a degradation from a higher state. "When man had once fallen from virtue," writes Schlegel, "no determinable limit would be assigned to his degradation, nor how far he might descend by degrees till he reached almost, to the level of the brute; for, as in his origin he was a being essentially free, he was in consequence capable of change, and even in his organic powers most flexible. We must adopt this principle, as the only clue to guide us in our enquiries, from the African negro, who from his bodily strength and ability, from his docile and, in general, his good character, is far from occupying the lowest grade in the scale of humanity, down to the Patagonian, the almost imbecile Peshweras, and the horrible cannibal of New Zealand, whose very portrait excites a shudder in the beholder. So far from seeking, with Rousseau and his disciples, for the true origin of mankind, and the proper foundations of the social compact, in the condition even of the best savages, we regard it, on the contrary, as a state of degeneracy and degradation."*

One would think that the scientific world ought to be surfeited with theories. From the dawn of the reign of the Encyclopedists, theory rose beside theory and though, as far back as 1806, the French Institute counted eighty systems opposed to the Mosaic records, not one of them to-day invites the attention of thoughtful men. Voltaire in his "History of the Russians under Peter the Great," informs us that: "no one but a blind man can doubt that Whitemen, Negroes, Chinese, Albinos, Hottentots, Laplanders and American Indians are all entirely distinct races, separate and distinct creations, or evolutions." Camille Desmoulins supported the theory of eleven distinct families of the human race and Boryde de St. Vincent extended the number to fifteen. Voltaire denied the possibility of a diluvian cataclysm and when Buffon showed him marine shells gathered from mountain crests, Voltaire said they were only freaks of nature.†

REMAINS OF EARLY MAN.

From the remains supplied by fossil-yielding strata or fossiliferous beds of ancient streams and from old river gravels and limestone caverns, many students of anthropology profess to have ample proofs that primeval man was a savage. From chipped flints and bones separated from the stalagmitic deposits in Kent's cave, near Torquay, England, and from the supposedly worked flints which H. Boucher de Perthes found beside bones of a woolly-haired elephant or mammoth, and with those of a cave bear and other mammals in the "drift" or gravel pits of Abbeyville, in Picardy, Professor Reed-Moir would have us acknowledge these finds as proofs of man's primitive savagery. During his lecture at a recent meeting of the Royal Anthropological Society, he exhibited many paleolithic flint specimens presumably hand-flaked, of the early pleistocene period, also a few stone hammers, a bone needle, shreds of crude pottery and a large fossil elephant-bone, dressed down to a point. From these exhibits and from human remains, chiefly skulls and fragments of skulls, found in caves, dry washes and gravel-pits within

* "Philosophy of History," Vol. I, p. 48.

† Appendix, Note 3.

the past seventy years, Professors Muir, Osborne, Scott, Elliott and many American Anthropologists construct or, preferably, endorse a theory bearing upon the fabulous antiquity of man and his original savage state.

These skulls and fragments have been found in different counties and at different times, they are classified as the:

(1) Piltdown skull, found in 1911 by Mr. Charles Dawson in Piltdown Common, Fletching, England, and named—*Eonthropus Dawsoni*.

(2) Heidleberg Jaw—*Homo Heidelbergensis*—found near Heidleberg in the Mauer Sands in 1907.



Original Men. An Assumption by W. J. Thomson.

(3) A brain-case—*Pithecanthropus Javanensis*—found a few years ago in Java.

(4) The Neanderthal, Mousterian and the Chapelle aux Saints skulls.

(5) The Talgai skull, relic of pleistocene man, now in the Museum of the University, Sydney, Australia. It was found near Talgai, in the Darling Downs, Queensland, and is completely mineralized. Then there are Grimaldi skeletons, the Cro-Magnon remains and many others found in caves in France and Spain. Near some of these skulls and remains were found a few "eolithes" (*eo*-dawn, *lithos*-stone, dawn stones) which some anthropologists believe to be the earliest form of tools, or weapons, used by savage man.

DIVERSITY OF OPINION AMONG SCIENTISTS.

Mr. Dawson and Dr. Smith Woodward contend that the latest of the "finds," the Piltdown skull, belongs to the late pleistocene period and is, probably, two hundred thousand years old. But Sir Ray Lankester, Keith, Harrison and Reed-Moir, say that man was on the earth in the early pleistocene period, that is, from five hundred thousand to a million of years ago. Sir John Lubbock and many European and American paleontologists, arguing from the discovery of these chipped flints, a few stone hammers and other rude stones and peculiarly shaped implements found in glacial moraines, drifts and land-faults claim that these *eolithes* were fashioned by primitive man in an inconceivably remote past. But Lapparent, Boulé and Obermair, leading authorities in paleontology, do not accept these flints as the work of man. They proclaim these *eolithes* to be merely fragments of prismatic flints.

Reading over the contradictory statements of these authorities, one is reminded of the fiery discussion over the little pieces of calcareous matter found in the glens of Scotland after a flood. These articles, Sir Walter Scott tells us in his "Introduction to the Waverley Novels," were fashioned by the water into a fantastic resemblance of cups, saucers, basins and the like. The children said they were made by the fairies, the shepherds asserted they belonged to an extinct race of dwarfs, and the philosophers took them into their hands, examined them, shook their heads and looked wise.

Nor is there any unanimity of opinion on the birthplace of the first man or parent of the human race. Sir Charles Lyell, a great authority in his day, was of the opinion that man's first appearance was in the tropics, or in the torrid zone from whence he slowly drifted into colder regions. Scott Elliott tells us in "Prehistoric Man and His Story," that the first man was probably born in "the meeting place of three continents—east and north of Suez, west of India, and south of Russia," while Henry F. Osborn in the preface to his "Men of the Old Stone Age," say that: "it is somewhat more probable that our early progenitors lived on the African continent than elsewhere." But the eminent anthropologist Prof. Sergi and the distinguished paleolithic scholar, Cope, insist that man's first home was in South America. Then to impart additional interest to this lively controversy Professor H. R. Howland tells us that wherever and whenever man was born, he and his successors were left handed; and he made this statement on the authority of the Book of Judges. All of which reminds us of the justice of Andrew Lang's observation that too often popular science is nothing more than an "expenditure of rhetoric on erroneous conclusions."*

When these writers cannot agree among themselves but put forth assumptions, theories, hypotheses and speculations that conflict with our intuitions and common sense, we know enough to know that this is not science but something baseless and false. We accept as true that which is proved to be true, but we demand of those who bring against the supernatural origin of man objections from science to prove, first of all, that that which they call science is genuine science, not simply an induction, an hypothesis, a theory, a conception.

* The latest word on man's origin comes from J. Wood Jones, Professor of Anatomy in the London School of Medicine for Women. The Professor informs us that "Man comes of an arboreal stock. Arboreal uprightness preceded terrestrial uprightness."—*Arboreal Man*. Longmans, Green & Co., New York, 1917. In his book the author, forgetting the elementary law of causality, attempts to prove that the effect is greater than its cause.

We remember Huxley's brilliant introduction to his volume of essays in which he mentions how he came to appear before the world as an antagonist of the faith of his fellow countrymen. He began his studies, he informs us, with no particular bias against the Church of England, or against any church, but with the simple desire to investigate certain facts of the visible universe. But wherever he went in his tour of investigation, he tells us, he found his path barred by notice-boards bearing the warning: "No thoroughfare; by order of Moses." He lived to help in removing these boards but when Christian apologists entered the path well worn by him and his admirers, they were arrested by signposts carrying the inscription "Road closed; by order of Darwin."

PROBLEM OF MAN'S ORIGIN.

The problem of man's origin belongs not to experimental science but to metaphysics and theology. Mr. Elliott appreciates this, to some extent at least, and is driven to remark that: "The common sense of mankind whether in civilized or savage communities, draws an unmistakable boundary between the best animal and the worst man. But if we are to attempt to define this limit, we would at once be confused in psychological and metaphysical subtleties which, however definite they may be, never seem to lead to a definite result."*

Here then is the pith of the problem: the solution of the sum of man's origin lies outside evolution, and evolutionists will not, or cannot, see their way open to discuss the problem on higher than material grounds. There is another admission too, quite unusual in books of this kind, to this effect, that every point emphasized by him in his "Prehistoric Man" is always a "matter of probability." Such a declaration disarms controversy and leads the critical reader to overlook the "may bes" and "might have beens" scattered here and there on its pages.

The contention of Voltaire in his "Philosophy of History" and of Sir John Lubbock in his "Primitive Condition of Man," that the savage is the type of original man is largely held to-day by non-Christian scientists. In an article printed in the *Scientific American* (January 30, 1915) Professor W. P. Pycraft, of the British Museum, supports the savage-man theory, advancing nothing new and supplying no strength to arguments already triumphantly met and demolished by the Duke of Argyle in his essay on "Primeval Man."

THEORY OF PROGRESSIVES.

The theory of what is now known as the "School of Scientific Progress" is included in two assumptions:

- (a) That the primitive life of the human race was the savage state, or that of utter barbarism, and—
- (b) That the race rose from savagery to the highest civilization yet attained, by its own energy and without any supernatural aid.

Now, this theory, at its best, is but an assumption, a conjecture, an hypothesis and is not science. It is not a fact demonstrably true or historically known or verifiable. It is but an induction from certain isolated "finds" and ascertained

* Prehistoric Man and His Story," p. 56.

facts. The English political school of Hobbes, Adam Smith and Thomas Malthus anticipated the Progressives by many years, for they also dealt with man as originally a savage, struggling with beasts and his human brother for existence and finally attaining to civilization by his own efforts. So, likewise, thought Rousseau, Von Holbach, and the French Encyclopedists. But, like their successors, they were not able to substantiate their claims.

The common practice of those who, in the name of science, pretend to contradict Christian tradition, of bringing forward an unproved and unprovable theory, or hypothesis, and then insisting on the believer in Divine inspiration disproving it, or else surrendering Christian tradition, is neither logical, nor scientific. "Admit an absurdity once," reads an old axiom, "and anything will follow."

It is for the progressives to prove, not for us to disprove, their theories, hypotheses, conjectures and guesses. Till they are proved they are not science and make nothing against Christian inheritance. Professors McCurdy, Elliott and W. P. Pycraft draw a very elaborate and partially true picture of the mental and social state of savages, but—and a very important omission—they forget to prove that primeval man was a savage.

Progress of individuals and even of nations in culture, wisdom, virtue and religion, by the study of tradition, by foreign influence, superior instruction and aid, there has been and will be; but no man ever did or can, by his own inherent energy or unassisted, indigenous effort, rise from the savage state to a plane of, even partial, civilization.

MAN NOT PROGRESSIVE.

The life of the savage runs from generation to generation in the same unalterable groove. His tendency is ever downward or he is, in a sense, a petrified man. The history of the human race upon earth is more a record of deterioration than of progress. Neither mentally nor physically has man improved in ten thousand years.

Professor Flinders Petrie, an acknowledged authority on all that concerns Egyptian history and archaeology, writes in his "Romance of Early Civilization." "We have now before us a view of the powers of man at the earliest point to which we can trace written history, and what strikes us most is how very little his nature or abilities have changed in seven thousand years. What he admired, we admire; what were his limits in fine handiwork are also ours. We may have a wider outlook, a greater understanding of things, our interests may have extended in this interval, but as far as human nature and tastes go, man is essentially unchanged even in this comparatively long period." Still later, and as if to confirm the statement of Prof. Petrie, Alfred Russel Wallace wrote in his book "The World of Life:" "By a general glance over the early history of civilized man I have shown that there is little, if any, evidence of advance in character or in intellect from the earliest times of which we have any record."

It is to be presumed Professors Petrie and Russel Wallace knew what they were talking about. If in seven thousand years man has not essentially changed, if his limitations in fine handiwork, and his tastes and abilities are unaltered, what assurance have we that he will make any progress in intellect, or advancement, except in the material order, in the next seven thousand years. We have to-day no greater poets, orators, statesmen, or artists, than had ancient Greece

and Rome, or, for aught we know, Egypt, Persia, Chaldea and Assyria. Far from making further advance in civilization, all these nations have retrograded, supporting the contentions of Pfister, Patrick and Freud, that man, left to himself, will be governed by his passions and inclinations and fall away from the restraints of law and order.*

THE SAVAGE—A PETRIFIED MAN.

But of prehistoric man we know nothing; we only know that so far as history goes back we find nothing but a record of high civilization and barbarism existing side by side. We also know that the theory of original savagery is unhistorical, for there is no record or example of a savage tribe becoming by its own spontaneous and unassisted efforts a civilized community or people. All the historical authorities known to us agree on this, and there is not in all history an example to the contrary. But we go further and believe that not only is there no example or record of a savage people becoming civilized by its own unassisted efforts, but that it cannot be proved that any tribe sunk in the lowest savagery has ever, by any means, attained to civilization. And we advance this because the most pronounced characteristic of the savage is his idleness and unprogressiveness, mentally and socially. Time effects no change in his habits, in his condition, or in his stationariness.

And now, before the theory of the descent of man from an ape is open for discussion, the progress of the savage to the plane of civilized man must be proved. The explorers of Africa, Burton, Stanley, Livingston, Speke and Grant, found the negroes of the west coast and equatorial Africa as savage and brutalized as they were in the time of Herodotus 2,600 years ago. In that long interval of time they made not one solitary returning step to the civilization their forebears or ancestors had lost. The description of the savage tribes, the fish-eaters, eastward of the Persian Gulf, given by the companions of Alexander the Great, four hundred years before the Christian Era, applies in its entirety to them as they were seventy years ago when the traveller, Bruce, visited them. Schomburgk and Charles Warburton, the explorers of Guiana, declared in their writings that the Arowak, Macoushi, Acoway Indians and the Caribs of the mainland and islands would have remained savages till the end of time if the Spanish missionaries had not Christianized them.† The companions of Otondo in his historic failure to colonize Lower California in 1683 reported that the "Digger Indians" of the Peninsula had descended to the bed-rock of savagery and could not, save by a special interposition of God, rise from their unspeakable degradation.

Face to face with these facts of history, confronted with the written and unwritten testimony of the human race, scientists try to persuade thoughtful men that the Darwinian "frog-spawn" or the "worm-like thing" of the dean of American naturalists, after millions of years of transmutations and mutations

* "This is the moral of all human tales;
 'Tis but the sad rehearsal of the past,
 First freedom, then glory; when that fails,
 Wealth, vice, corruption, barbarism at last.
 And history with all her volumes vast
 Hath but one page."

Byron's "*Childe Harold*."

† "Description of British Guiana," Schomburgk, 1840, London; "Wanderings in South America," Waterton, 1839, London.

became a thing called an ape, which, after other millions of years, developed into a thing called a savage, who, after hundreds of thousands of years, expanded into a University Professor or a Viceroy of India. There may be instances where a savage or barbarous tribe became a civilized people, but there is no example in history to show that it became so by development from within itself. But, it may be objected, were not the British and German tribes immersed in savagery when Caesar subdued them? The Britons and Germans at the time of the Roman invasions were barbarians, not savages. The ancestors of the people now inhabiting England and Wales, that is, Celts or Kelts and Teutons had not, at any time, ever descended to savagery. They were in a state of secondary barbarism, held fast to sacred traditions preserved by their Druids and retained many of the elements of an inherited civilization. They were never immersed in pure savagery. The Teutons, Germans or Goths were, according to Gibbon in his "Decline and Fall of the Roman Empire" descendants of the white Scythians mentioned by Herodotus and were never described as pure savages. They had their own religion and their own civil laws, their own towns or villages, were an agricultural people and subject to a code of laws and rules framed and selected by themselves. From what we know of them by tradition and history their barbarism was preferable to pagan civilization, for they had more respect for marriage than the Romans and Greeks, held female chastity in higher esteem, had more regard for their pledged word and were not so atrociously cruel.

The most ancient civilized peoples, the Egyptians, Ethiopians, Assyrians, Persians, Chinese, Phoenicians, Chaldeans and Hindoos, had no savage ancestors, or, if they had, tradition has no memory of them.

We learn from the researches of Captain Darby, who for many years was French Consul at Hang-Keou and a diligent student of Chinese history, that under the dynasty of Chin-nong, three thousand years before the Redemption, all Chinese documents and ancient records in writing were collected, codified and transcribed on parchment, and this was done at a time when the tribes of Europe were barbarians according to the researches of Le Baron.*

The heroic age of India comprised a very long period, and, writes Hessler, "the beginning of this period is lost in an immensity of time; though we know that it ended about one thousand years before Christ." All of which goes to show that the people who wandered furthest from the parent home of the race, where all "were of one tongue and one speech," fell the lowest, while others who remained nearer the original seats of the race retained their civilization.

NO INTELLECTUAL PROGRESS.

Moreover, the assumption by the Progressives that human progress is inevitable is altogether without any support from history. All the records we have of the great empires of the past furnish us no proofs of their progress in intellect or in arts, or of any permanent advance in their civilization or social habits. Hallam was of the opinion that their earliest constitutions were the most favorable to liberty and to the freedom of their subjects. Their oldest works of art are the best, and their earliest literature is the richest and most intellectual. The oldest of the Chinese and Hindu books are superior to anything they have produced in modern times.

* "La Medecine Chez les Chinois," P. Darby, Paris, 1863.

The early Romans were morally and religiously superior to, and less superstitious than, the Romans under the Caesars, whose monstrosity in cruelty and in the glutting of abnormal desires, according to their own writers Catullus, Martial, Lucretius and others, staggers belief. If the monstrous moral and religious degradation of the Romans be truths of history, then the decline and fall of the Roman Empire was a blessing sent by God to the human race. We do not know when or from whom the Greeks got their civilization—probably from the Egyptians or Phoenicians—but we do know from the testimony of Strabo, the geographer, that in his time—the time of the Redemption—the Greeks were a decaying and decomposing people. The two greatest poets of Greece, Hesiod and Homer, were the earliest; the best elements of Greek philosophy, the wisest, the most just and salutary of the laws of the Hellenic republics were the oldest. Men, even educated men, who are so perfectly sure of progress from century to century, and that progress is the rule of national life, ought to remember that in philosophy we have not improved on Plato and Aristotle, in literature upon Homer or Aeschylus, or in sculpture and architecture on Phidias and Ictinus.

The dignity and sublimity of the Book of Job, the Epics of Homer, and the sublime prophecies of Isaiah are to-day unrivalled, while the code of Hammurabi and the Instructions of Ptah-Hotep are not surpassed by the code of Napoleon. All the races who equalled and, in a sense, surpassed in intellectual achievements our modern races have retrograded and are, to-day, intellectually barren. Each of these nations, after attaining to a high level of civilization, inevitably declined; the Fellaheen of Egypt, the wandering Bedouin and the mongrel Greek are not in the same class, intellectually, with their forebears. Decadence, and not progress, has marked the careers of these races. In America the Mayas, Quiches, Toltecs and Peruvians (judging from the remains of their architecture, their calendars, and their traditions) reached a high material civilization and are to-day a pauperized and semi-barbarous people.

Herbert Spencer once said that nearly all the savage tribes on earth furnish evidence of having fallen from a higher estate, and Max Muller declared that there are few, if any, of the most degraded races of mankind whose language does not suggest larger vocabularies than those now used by them.

Careful perusal of the findings of modern science must convince any impartial mind that the skeletal remains of prehistoric man are eloquent of one great truth. These remains tell us that primeval man had much the same cerebral organization which man has to-day and, we may infer, he had just as high an intellectual and moral nature.

These remains prove, if they prove anything, that man's earliest state was good and that, before he became a savage, he was a high and noble creature.

TENDENCY ALWAYS TO BARBARISM.

It ought to be patent to men of common sense that the direct or indirect influence of Christianity and the enforcement of laws made for the government and preservation of society save many of us from descending to savagery. Where law cannot reach nor religion influence a community, barbarism, in time, will overshadow it. The Kentucky feudists, the Greek Mainotes, and the Sicilian vendettists of our own day have crossed the frontiers of civilization into barbarism. The story of the Montana cut-throats, told by Thomas Dimsdale, and the history

of the Nevada bandits, recorded by Wilbur F. Sanders, are proofs, if we demand them, of the descent of civilized man to savagery when unrestrained by fear of God or by the strong arm of the law. These lawless men were the sons of civilized parents, and went down in two generations to barbarism.* Our large cities, towns and rural districts have some men and women who are law-abiding citizens by compulsion, but barbarians by choice. Extremists, when inspired by theoretic intellectualism, apparently despise all marks of common sense, conservation and tradition, as hall-marks of stupidity and superstition.

The traditions of not only the Greeks and Romans, but of nearly all ancient peoples associated with those men we now call prehistoric, the "Golden Age" of the human race, that is, an age of high civilization antedating savagery. We cannot discard the wisdom of the past for while "knowledge comes, yet wisdom lingers;" knowledge comes to the generation but wisdom (tradition) lingers in the race as a legacy from the past. To do away with tradition and rest with the sophists upon arguments appealing to the individual as plausible and probable, is to disown our inheritance of wisdom from past ages. The prehistoric state of our race may be known only by accepting the traditions of the human race as evidences of the primitive condition of man and of a primitive revelation.

To-day science is specialized and the partial results of specialized science are advanced as sufficient to break down the defences of Christianity. But as Bacon so sagely remarks: "The harmony of the sciences, that is, when each part supports the other, is, and ought to be, the true and brief way of rebuttal and suppression of all sorts of objections."† The voice of what, to-day, is called science is a discordant and contradictory voice. Geologists, biologists and physicists oppose the order of creation as related by Moses: physiologists deny the descent of man from one pair; philologists refuse to accept the original oneness of language and its subsequent disruption. But ethnographers, as they advance in the study of their science, testify more and more to the primeval division of mankind into three great races, as recorded by Moses.

Assyriologists and Egyptologists have opened new avenues of exploration, and, from the ruins of buried cities, proved the accuracy of the Mosaic account of the Noachic Flood, the patriarchal period and the Isaian prophecies. From the monuments, clay-tablets, cylinders and cuneiform scripts now in the British Museum, the Pierpont Morgan and University of Pennsylvania treasures, and from collections preserved in the libraries of the Universities of Europe and America, archaeologists and oriental scholars assure us that the records of the Old Testament are in accord with many of the remarkable facts written on the monuments recently uncovered in the historic lands watered by the Tigris and Euphrates rivers.

These newly discovered tablets and terra-cotta writings triumphantly bear witness to the truth of the statement of the ethnographer, Balhi, that "no monument, either historical or astronomical, has yet been able to prove false the Book of Moses: but with them, on the contrary, agree in the most remarkable manner the results obtained by the most learned philologists and the profoundest geometricians."‡ We began this essay with a citation from the book of an avowed agnostic, Edward Clodd, now living; we end it with a quotation from the book of an orthodox believer, Jesus, the son of Sirach of Jerusalem, dead two thousand

* Appendix, Note 4.

† Bacon, Vol. VII, p. 330.

‡ "Atlas Ethnographique du Globe," chap. iv, p. 93.

one hundred years: "God made man from the beginning, and left him in the hand of his own council. He added His commandments and precepts. Before man is life and death, good and evil. That which he shall choose shall be given to him." Eccl. Chap. XV, vs. 14-17. No scientific theory, no cunningly worded hypothesis "no gospel of dirt, teaching that man has descended from frog-spawn through monkeys, can ever set that aside."

APPENDIX.

(Note 1, p. 4.)

During his lecture on "The Insect Progeny of Adam's First Wife," delivered in the hall of the "American Museum of Natural History," Professor Robert P. Dow declared that "Eve was not Adam's first wife. Many years before, he married Lillith, a blonde with hair like ropes of gold." He claimed that Lillith's second husband was Beelzebub. Her children by Beelzebub were all insects. Mr. Dow based his authority for his statements, he claimed, on researches he had made into antiquity.*

What opinion must thoughtful men have of the intelligence of the trustees of the "American Museum of Natural History," who tendered the hospitality of their hall to Robert P. Dow. No wonder sensible men are protesting against the infliction upon them of a small army of the Theodore Nicholas Gills and the Robert P. Dows.

(Note 2—Growth of Atheism, p. 5.)

Dr. James Henry Leuba, Professor of Psychology at Bryn Mawr College, Pa., has given to the public replies received by him from American sociologists, biologists, psychologists and teachers in universities and other institutions of learning in the United States as to their belief in the existence of God. More than fifty per cent. of the answers show absolute unbelief in a personal God, and forty per cent. deny the immortality of the soul.

Dr. Leuba informs us that if the men who answered his letter: "do not include all the intellectual leaders of the United States, they certainly include the great majority of them. Most of them are teachers in schools of higher learning. There is no class of men, who, on the whole, rival them for the influence exerted on the educated public and upon the young men from whom are to come most of the leaders of the next generation."[†]

(Note 3—Voltaire, p. 14.)

"Voltaire asserted in one of his books that the fossils found on the tops of mountains were not marine shells but *lusus naturae*—freaks of nature. Buffon, when Voltaire visited him, placed side by side on a board, shells newly gathered on the sea shore, and fossil shells from mountain tops. When he told Voltaire he had only to cast his eyes upon the board to be convinced of his error, the philosopher refused to examine or even to look upon the specimens, turned and left the room."

"European Magazine," Oct. 1794.

* N. Y. Times, Dec. 20th, 1916.

† "The Belief in God and Immortality," Sherman French & Co., Boston.

(Note 4—*Tendency to Savagery*, p. 26.)

H. Von Buttel-Reepen in his book, "Man and His Forerunners," furnishes a brief compendium of prominent writers dealing with the devolution of man. He contends that, from archæological science founded on recent excavations and cave discoveries, man's tendency is towards barbarism and savagery. Man, and all things such as domestic animals and plants, when left to themselves tend to degeneracy. The author belongs to the Darwinian school, and the most interesting passage in his book is that in which he says: "It has never, of course, been believed in scientific circles that men are descended from apes." On the contrary, the professor continues: "Man is not descended from the ape, but, the ape from man." But, he adds, "it would be well, however, to take this theory *cum grano salis*." Are our natural scientists victims of egomania, and must we say with Festus: "*Much learning hath made them mad*."



II

PREAMBLE

In the *National Geographic Magazine* for February, 1916, there appeared a masterly review of Henry Fairfield Osborn's book, "Men of the Old Stone Age," by Colonel Theodore Roosevelt. While the Colonel does not absolutely accept all the hypotheses of Professor Osborn's book, still he leads us to infer that he is in intimate sympathy with many of the theories advanced in "Men of the Old Stone Age." Professor Osborn has enlarged upon, and elaborately developed, Darwin's hypothesis of the descent of man from an ape. But he nowhere undertakes to account for the evolution of the ape. We do not believe that the Professor would care to trace his ancestors back to a sea shell, as did Darwin's grandfather, whose family seal carried the legend: "Omnia ex conchis"—"everything from a clam shell."

The author of "Men of the Old Stone Age" throws back the first appearance of man-as-man into the mystic twilight of an unknown past, hundreds of thousands of years before Usher's biblical time, "when the earth was void and empty and the spirit of God moved over the waters." Professor Osborn gives to us no startling information on man's origin beyond what was already known to European and American paleontologists. What he does do, however, and does well, is to clothe the theories, hypotheses and suppositions of the Darwinian school in a new and fascinatingly attractive dress, which appeals to the imagination, if not to the judgment, of his thoughtful readers. The wonderful self-deception and the amazing skill which many, who are called scientists, exhibit in their efforts to destroy all belief in the supernatural, surpasses, like the peace of the Lord, all understanding of man. What is the solution of this mysterious problem? Is it, as Ruskin tells us, because:—

"In general all false reasoning comes from men having some false notion in their hearts with which they are resolved that their reasoning shall comply."

To place Faith and Science in a state of perpetual collision, by which Faith is corrupted, spoiled and laid waste, and Science separated from it seems, as Shlegel in his "History of Literature" contends, to be the avowed intent of modern scientists. By this manifold and hostile separation, belief in the Supernatural is leaving our homes, and the restraining influence of Faith, Hope and Charity, in their vital action on the moral conduct of the masses, is disappearing.

The epilogue of most of the scientific contributions to the discussion on the origin of man fully justifies Newman's assertion that "to-day mistiness is the mother of wisdom." To qualify as an accredited writer of "popular science," you must be large in statement, broad in outlook, vague in deduction, and mystic in diction. The theory put forth by Prof. Osborn, and tentatively endorsed by Col.

Roosevelt, was, some years ago, supported officially, in his Archæological Report, by the Superintendent of the Archæological Department of the Board of Education for Ontario.

In the Archæological Report for 1895 appeared an article entitled, "Notes on Primitive Man," written by the late Dr. David Boyle. In his essay, Dr. Boyle's sympathies and predilections led him to support the Darwinian doctrine of man's descent from a beast. He gave particular prominence in his "Notes" to this avowal from Darwin's "Descent of Man," "Our progenitors diverged from the Catarrhine (Monkey) stock of the anthropoids." In a foot-note the doctor informs us that: "Cope renders it probable that the ape ancestor of man lived in North America. The anaptomorphus was a lemur rather than a monkey, and had a dentition very human in character." The trouble with Cope and many like him is that they suffer from what logicians call "*Petitio principii*"—assuming for granted the very thing to be proved.

Logically, the doctor also assumed that the first man or woman, when they shed their brute skins, were hairy, half-naked things, steeped in the lowest savagery. If permitted to pass unchallenged, these contentions would threaten the foundations of Christianity, would destroy all belief in the inspiration of the Mosaic writings, and, by implication, would make the Minister of Education of the year of the publication of the report, a party to a conspiracy to undermine Christian faith and imperil all belief in the supernatural. As Dr. Boyle's paper on Primitive Man appeared in a Government Report, it is in the interest of impartiality that a rejoinder or refutation of the Doctor's views is published in this "Report."

The elucidation and acceptance of all truth, come from whom it may, is as imperative as a command of God. There can be no serious conflict between real science and Christianity.

Were it possible to prove Dr. Boyle's theory of evolution—and that it is more than a theory cannot be claimed for it by its staunchest advocates—and trace back man's origin to an ape, still the fact of converting the beast into a man would be an act of creation, and one of infinite love, power and goodness.

Man is a being possessed of spiritual, intellectual and moral attributes, and as no living thing can give to another that which it has not itself, no animal could give to man an immortal soul or a reasoning mind. Science has not proved, and in all likelihood never will prove, that upon the earth there was or is any being with capacity to evolve thought or think rationally, save man alone.

What is called modern science, or science in an absolute manner as opposed to Christian tradition, is really nothing but hypothesis piled on hypothesis.

If pious Darwinians are shocked at our blasphemous temerity in challenging the plenary infallibility of the "Origin of Species," we Christians contend that we have the same right to disbelieve evolution as they have to disbelieve the Bible. We are free men, and we have the same right to be agnostics as to their biology as they have to be agnostics about our Christianity.

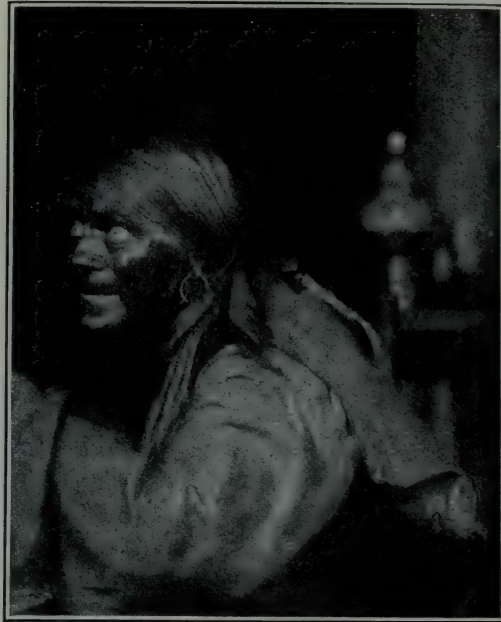
REVIEWING THE PAST.

Sixty years ago the intellectual world was divided into great hostile camps battling over the origin of man, the evolution of the species, and primeval man. Captained by such formidable leaders as Charles Darwin (1), Sir John Lubbock (2), John Tyndall (3), and Herbert Spencer (4), the evolutionists carried consternation to the Christian camp and threatened the permanency of the Christian religion.

- (1) "Origin of Species by means of Natural Selections."
"Descent of man and selection in relation to sex."
- (2) "Origin of civilization and the primitive condition of man."
- (3) "Inaugural Address before the British Association."
- (4) "First Principles of the New System of Philosophy."

The Christian cohorts, marshalled under the leadership of St. George Mivart (5), Lord Arundell Wardour (6), The Duke of Argyle (?), Orestes Brownson (8), and Cardinal Wiseman (9), defended the entrenchments of Christianity.

- (5) "On the Genesis of Species."
- (6) "Tradition; with reference to Mythology and the Law of Nations."
- (7) "The Primeval Man; an examination of some recent speculations."
- (8) "Darwin's Descent of Man."
- (9) "Connection between Science and Revealed Religion."



A MODERN APE MAN.
(Drawn from life by W. Thompson.)

The comparative weakness of the forces now aligned against the Christian religion, and the exhaustion of high explosives, at one time in possession of the invaders on orthodox territory, is a propitious augury that the war between the evolutionists and the defenders of revelation is, like all wars of long duration, approaching a final issue.

Those among us who in other days, worshipped Kant, Haeckel, Fichte, Nietzsche and Bernhardt as "supermen," now realize that we were bowing to men of clay, whose creeds led to the logical results of Teutonic barbarities in Belgium and to contempt for written contracts. These were they who opposed all national morality, decency and clean living, but we were too blind to perceive the indecency of the paintings in our admiration of the colours and the execution.*

* Appendix, Note I.

The most honoured and praised of the scientists of England and France in the last century, by public repute, were the Huxleys, the Tyndalls, Lyells, Lubbocks, Darwins, Spencers; the Comteians and the Cosmists or Evolutionists, men who might make a Lamarek, a La Mettrie, or even a Cabanis—who defined man to be “a digestive tube open at both ends”—die of envy.

In France they were anticipated by Voltaire, Holbach, D’Alambert, and the two Rousseaus, who hastened, if they did not bring on, the French Revolution, and who, under cover of the honourable names of philosophy, progress and liberty, partially succeeded in sapping the very foundations of religion, morality, civilization, and even of society itself. In the writings of these men were concealed the germs of social and religious ruin; out of them arose the rockets of free thought, scepticism, agnosticism and atheism. These men threw religion into the discard of old and useless things and, incidentally, cleared the stage for David Hume and his school of English-speaking naturalists. Tiring with Hume and Bolingbroke, many restless spirits fawned on the positivist Comte, and in time, becoming disgusted with his frigid, naturalistic creed, they turned and worshipped Herbert Spencer, founder of the school of practical evolution. His agnostic reign continues in some form to-day, though signs are not wanting that it is nearing its end.

The talents and ingenuity of many of these writers were marvellous, and any religion which could survive their attacks and continue to flourish, must be superhuman, and need fear no future foes, for the future is not likely to furnish abler men or to devise a more consummate strategy.

THEORY OF EVOLUTION.

Until we read Professor George Grant McCurdy’s pamphlet on “Ancestor Hunting,” we had thought that among men of high intellectual attainments the controversy now waged for sixty years on the descent of man was at an end. The learned Professor assures us we shall have to go “a long way back in the past to find the parting of the ways between the ancestors of man and that of his nearest of kin among the apes . . . the evolution of the human brain from simian type involves a tripling of the superficial area of the cerebral cortex.”

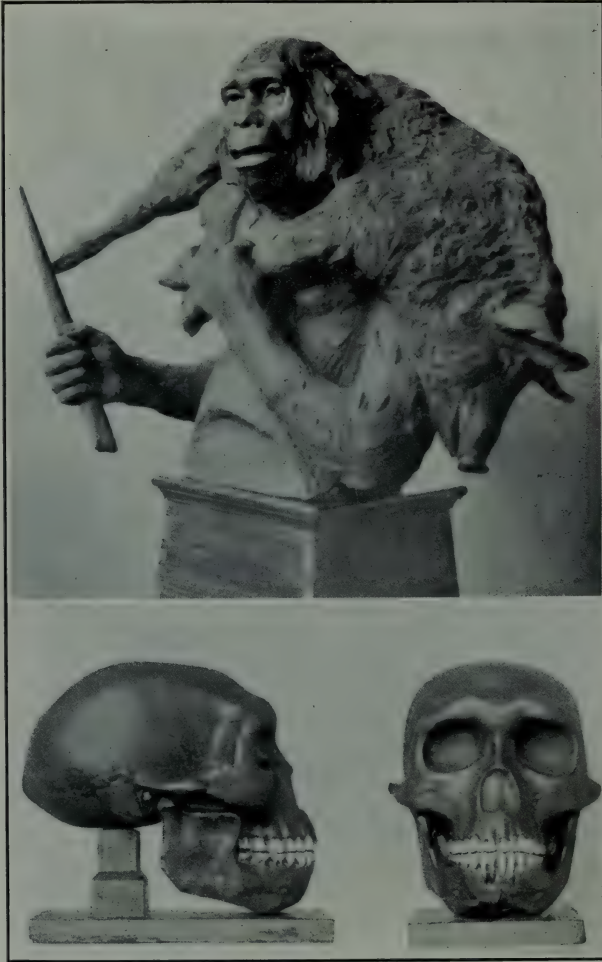
Prof. Scott Elliott, while not taking issue with Grant McCurdy, hesitates to follow the origin of man back to a beast and confesses his inability to account for his original birth. He writes: “Although we have an opinion that all animals may possess germs of mentality and morality, it will be seen that for this sudden change (from irrational to rational) and status no real explanation has been offered.” Further on he adds: “In the oldest and most widely read of all books an answer can be found to satisfy those difficulties which arise from the present condition of science and of man himself.”*

And now enters Mr. Edward Clodd, who assures us on the faith of a gentleman and a scholar that: “Without doubt the influence of the conclusions deducible from the theory of evolution is fatal to belief in the supernatural.” (“Pioneers of Evolution,” Watt & Company, London.) The evolution on which these gentlemen lay stress is, of course, the evolution of the Ape-Man. This evolution is either an innocent scientific description of how man and animals originated, and if it be anything more than this, it is an astute attack on thought itself. It means that a positive thing called an ape with a perishable soul turned in millions of years into a perishable thing called man, with a rational, if not an immortal, soul.

* “Prehistoric Man and His Story,” 1915. Seeley & Co., London, E.

The capture of Constantinople alone sufficed to crush the spirit of ancient Greece, and the genius of the Romans was destroyed by the Goth. It remained for the evolutionists to extinguish the immortality of the soul by confusing the attributes of thought and action in man, with the impulse and instinct in the brute.

With the Chaldeans, Egyptians, Greeks and Syrians, or with those who came before the Phœnicians into the basin of the Mediterranean, they assume that soul



THE HEIDÉLBERG WITH FALSE CHIN ATTACHED.
Drawn by M. Masere.

and life are one. As at one time in the history of our race, all thoughts and theories were judged by whether they tended to make a man lose his soul, so to-day all modern scientific thoughts and theories may be judged by whether they make a man lose his wits.

The more of these books we read, the more we are convinced of the truth of the words of the distinguished entomologist, Dr. Wasmann: "The higher we ascend in

the systematic categories, and the more closely we approach the chief types of the animal world, the scantier becomes the evidence; in fact, it fails so completely that we are finally forced to acknowledge that the assumption of a monophyletic cell, and the evolution from it of the whole animal kingdom of organic life, is a delightful dream without any scientific support."

STATEMENT OF THE CASE.

It is self-evident that any theory of evolution that contradicts creation and denies the immortality of the human soul is directly opposed to Revelation, and therefore to Christian truth. Though evolution in some form goes back to Thales and Auxmader, it was not till 1809 that it became a science, when Lamarck wrote his "*Philosophie Zoologique*," and became the parent of modern evolutionary law. He contended that environment and conditions tended to develop and alter the habits and impulses and even the organs of animals. These changes in animal structure were transmitted to their offspring. He was ably supported by Geoffroy Saint Hilaire, who preached the doctrine of the mutability of species and embryotic change. In 1858 Alfred Russell Wallace and Charles Darwin originated a new system of evolution which they called the Law of Natural Selection. The following year, 1859, Darwin published his "*Origin of Species*," which fell as an explosive shell in the Christian camp. He fearlessly proclaimed that man himself was the result of natural selection, and was but a higher type of animal produced by a long series of transformations; that, in reality, he was a developed brute with a superior intelligence. In his letter to Sir Charles Lyell he says: "Our ancestor was an animal which breathed water, had a swim bladder, a great swimming tail, an imperfect skull, and undoubtedly was an hermaphrodite." He failed to state, however, when and how animal instinct became human intelligence, or wherein the spiritual soul of man differs essentially from the soul of a brute. The favourable reception accorded by many advanced thinkers, and particularly by young and enthusiastic students, to the theories advanced in Darwin's "*Origin of Species*," did more to imperil the faith of orthodox believers in human intelligence, as distinct from animal instinct, than did all the arguments and examples adduced by the scientist himself. Such was the popularity and influence of Darwin's writings that no refutation of his arguments, however conclusive, met with a favourable reception, and for years nearly all scientific works, romances and novels were punctuated with the Darwinian phrases: "The missing link," "Natural selection," "Survival of the fittest," "Struggle for existence," "The weak to the wall," and similar epigrammatic sayings.

While evolution in some form will possibly remain a permanency, the theory of the derivation of man from the ape or from any other animal, is buried beyond the hope of resurrection.

Alfred Russell Wallace, whose system of evolution was in accord with that of Darwin, and who, conjointly with him, read, on the same day, a paper on the subject before the Linnaean Society, London, refused to go back to an ape-man. He contended for the divine origin of man and the spirituality of the human soul, saying that man was an exception to the laws of natural selection, and that God guided the development of man in a definite direction and for some special purpose. Thomas Carlyle considered Darwin's ape-man an absurdity.*

* Appendix. Note 2.

3 P.M.

THE APE-MAN.

We will dismiss the argument of the physical resemblance in the structure of the ape and of man by a citation from the great Bumüller, who, in his erudite book, "Man or Ape," says: "The testimony of comparative anatomy is decidedly against the theory of man's descent from the ape" (p. 59).

If it be permissible to argue from resemblance to descent, we have the same right to assert that the ape is a degenerate man, as they to assume that man is but a higher type of the ape. Moreover, where, in caves or museums, may be found the remains of the animal bridging the chasm between the brute ape and the fully developed man? Though the existing forms of animal life have been studied and all fossil remains carefully examined, that which is popularly called the "missing link" has not been found. When Mr. Darwin was confronted with this problem he adroitly evaded it by assuming that the proofs of a missing link were probably buried in submerged continents, adding: "This manner of treating the question diminishes the difficulties considerably, if it does not cause them to disappear entirely." His disciple, Professor Heath, undeterred by the vagueness of his master's adroit evasion of the difficulty, assures us when writing of the *anthropitheque* (ape-man): "It is known that there were anthropoid apes; it is knowable that they gasped after articulation, and those who attained to it (*i.e.*, speech) are Aryans, whether of Asia, or of the submerged continent of Atlantis."

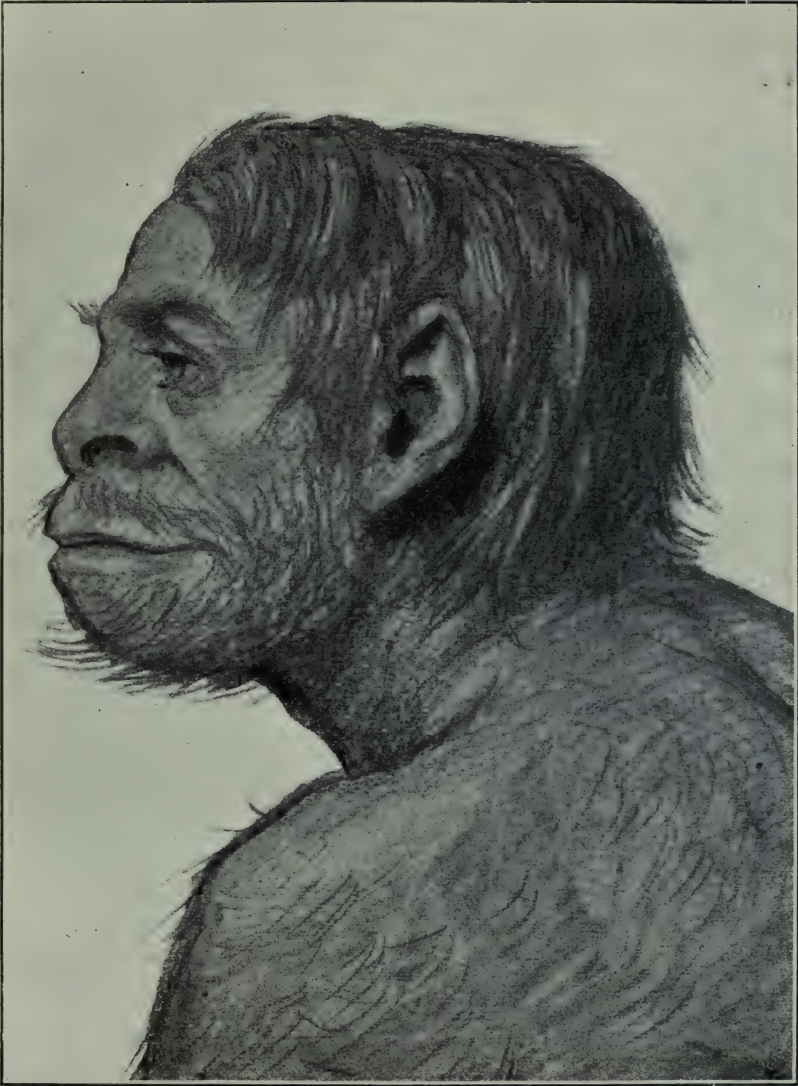
Mr. John Murray, who is an authority on oceanic subjects, writes: "He is a bold man who still argues that in tertiary times there was a large area of continental land in the Pacific, that there was once a Lemuria in the Indian Ocean, or a continental Atlantis in the Atlantic."

The distinguished scientist, Rudolph Virchow, in the Congress of Anthropologists assembled at Vienna in 1889, bears his testimony against the possibility of the existence of the Ape-Man: "We have sought in vain," he declared, "the missing links that are supposed to connect man with the ape. The primeval man, the genuine *pranthropes*, has not yet been found."

At Innsbruck, in 1869, scientists, in the fever heat of discussion, believed that they could trace the evolution of the ape into the man; to-day we are unable to trace the derivation of one race of men from another. No race of men has yet been discovered which can be designated as apish or half-apish . . . It can be clearly shown that in the course of five thousand years no appreciable change of type has taken place. In Virchow's tract on "The Liberty of Science," we read: "But I must say that no skull of ape or ape-man which could have had a human possessor has ever yet been found. . . . We cannot teach, nor can we regard as one of the results of human research, the doctrine that man is descended from the ape or from any other animal."

At the Congress of Naturalists and Physicians assembled at Wiesbaden, Prussia, Virchow delivered the inaugural address which dealt with the progress of biology and anthropology. Treating under its double vision prehistoric and historic man from the aspect of developed anthropology, he expounded at considerable length the theories now held by advanced thinkers. It may be of interest to mention that anthropology, which treats of man in his natural groups and formation, involves the study of all human characteristics, physical, pathological, physiological, and also his moral, social and political aptitudes. Virchow claimed that, as regards prehistoric anthropology: "Every positive advance which we made in that study had removed us further than before from any proof of evolution to be found there. Man has not descended from the ape, nor has any ape-man existed." Then, as to

savage man, he asserted that "the Australian bushman, who is probably the lowest and most imperfect type of men extant, is nowise ape-like, but entirely human like ourselves." Finally, adverting to the biological subject of the transformation of species, he affirmed that it is not yet possible to produce any certain proofs of man's



THE SPURIOUS APE MAN, PILTDOWN, WITH CHIMPANZEE JAW FITTED TO HUMAN SKULL. Drawn by J. Cooke.

tertiary origin in the world. The biologist, Prof. Zittel, referring to recent discoveries of human remains found in old caves, comments as follows: "Such material as this throws no light upon the question of race and descent. All the human bones of determinable age that have come down to us from the European Diluvium

as well as all the skulls discovered in caves, are identified by their size, shape and capacity as belonging to the *homosapiens* (man). They do not by any means fill up the gap between man and the ape.”—“Outlines of Paleontology,” p. 37.

The eminent paleontologist, Dr. Bumuller, ridicules the possibility of a prehistoric ape-man and proves to a demonstration his non-existence at any epoch or age on the earth. “On no recognized principle of classification can man be associated with the ape; for, to say nothing of his gifts of understanding and speech, he stands quite alone by reason of the vastly superior development of the brain portion of his nervous system, and hence can lay claim to an independent position in the animal kingdom. Neither is his descent from an ape attested by science, for as yet no connecting link has been discovered, either in the higher walks of apedom or in the lower walks of humanity. Even the possibility of a connection link is disproved by the tendency of apes and half-apes in the course of their higher development in anatomical structure, to diverge more and more from the human type, and is contradicted by the testimony of paleontology (the science dealing with remains of extinct species of animals preserved in clay or rock). Such is the present state of scientific knowledge; and its results are in harmony with the view which the human understanding, lay and professional, has ever entertained when not under the tyranny of theories that happen to be the fashion of the hour.”*

When Cardinal Manning in 1862 declared Darwin’s theory of the descent of man to be a “brutal philosophy—to wit, there is no God, and the ape is our Adam,” Huxley called him “a great man with a superstitious mind.” Now, after a lapse of sixty years, Protestant and Catholic scientists and philosophers are unanimous in declaring that the evolutionary theory as applied to man was “an attempt to dethrone God and to do away with all idea of God.”

THE DAWN MAN—THE MISSING LINK.

The supporters of the law of evolution have for sixty years searched the five continents in quest of a fossil or petrification of an animal intermediary between man and ape.

In 1911, Professors Charles Dawson and Smith Woodward unearthed at Piltdown, Sussex, England, a human skull, which was said to belong to Pliocene times. Further search in the bottom of the gravel pit revealed the right half of a jaw. The gravel bed, at the bottom of which the skull and jaw were found, held fossil remains which manifestly were washed in by streams in Pliocene times; these included scattered bones of a mastodon, a hippopotamus, a southern mammoth and a tooth of a primitive elephant.

There was no doubt that the Piltdown remains were very old and belonged to a period antedating the paleolithic age. The discovery of the skull and jaw bone created among scientists an interest greater than that aroused by the finding of the Java man, or Heidelberg man of the “river drift” races. Some of the popular anthropologists of Great Britain, notably Elliot Smith, Arthur Keith and Arthur Smith Woodward, contended that the ape-like jaw and human skull belonged to the same head, and that this type of man with a smooth forehead and ape-like jaw represented a new genus—an *Eoanthropus*, or dawn man. “Elliot Smith,” writes Henry Fairfield Osborn, “concluded that members of the Piltdown race might well have been the direct ancestors of the existing species of man, thus affording a direct link with undiscovered tertiary apes.”—(Men of the Old Stone Age—p. 142.)

* “Man or Ape,” p. 91.

Now began great rejoicing in the Darwinian camp, for, at last, the missing link was found. Drawings of the Piltdown man with ape jaw appeared in scientific journals and publications; magazines and newspapers exploited him, and university professors once again reverently spoke of the "myths of the Bible." Readers of



THE DAWN MAN." Drawn from imagination by J. Cooke.

the *Scientific American* cannot have forgotten an article which appeared in its issue of January 30th, 1915, written by Prof. W. D. Pycroft, British Museum, London. His paper was overwritten, "The Direct Ancestor of Modern Man and What He Looked Like," and was a feeble effort to revive interest in the Darwinian

Ape-Man. A glance at Prof. Pycroft's "Primitive Man" will show that he is a weird creation of the artist's brain. The long arms, the prehensile and splay-feet, the hairy pelt, the Hercules' club and prognathous jaw are all amusing if not edifying. From a fragment of an old cranium, two molar teeth, and the jaw of a beast—all which were found in the Piltdown pit—the learned professor reconstructed his exhibit No. 1. From the same remains a Professor of the Chicago University built up a missing link. This is what he exultantly wrote: "Competent paleontologists and anthropologists to-day believe it (skull, Chimpanzee jaw and molar teeth) to be a real connecting link between man and the lower ape-like animals." Is it any wonder that men now talk about the bankruptcy of science. A bankrupt is a man who cannot make good the credits given him.

Who the "competent" men referred to by the Chicago professor are we do not know, but we do know that Branco, Klaatsch, Ranke, Hertwig, Macnamara, Schwalbe, Keith, and others have proved that Dawson's reconstructed man is an imposition and a fraud.*

While the skull, with the jaw attached, was on exhibition in London, the distinguished anatomist, Dr. E. Walerston, addressing the members of the Geological Society of London, December 11th, 1912, said: "It is anatomically impossible for the two specimens, cranium and jaw, to belong to the same person." In his article on the "Piltdown Man," contributed to *Nature*, he wrote: "To refer the mandible and cranium to the same individual would be equivalent to articulating a chimpanzee foot with a human thigh and leg." Professor George Grant MacCurdy, of Yale University, writing in the February, 1916, number of *Science*, maintains that the French and Italian anthropologists rejected the "missing link" find at the time of the discovery, and laughed out of court Dawson's and Woodward's "dawn man."

Professor H. F. Osborn, who, in the first edition of his voluminous work, was disposed favourably towards the Piltdown man, "whom we are inclined to regard as a side branch of the human family," admits in his second edition—page 512—that the skull and the mandible did not belong to the same person.† From which we conclude with Virchow that: "When people see a doctrine which has been exhibited to them as certain, established, positive, and claiming universal acceptance, proved to be faulty in its very foundations or discovered to be faulty in its essentials and chief tendencies, many lose faith in science. Then they break forth into reproaches at the scientists:

"Ah! you yourselves are not quite sure. Your doctrine which you call truth to-day is to-morrow a lie. How can you demand that your teachings form the subject of education and be a recognized part of our general knowledge?"

What is known as the Neanderthal race has bequeathed to us the oldest fossil remains of man found anywhere upon earth. The skull, according to measurements given by Prof. Scott Elliot, does not differ measurably from some Australian types still living, and in cranial capacity it surpasses that of many of the Indo-Aryan race. When, after a study of the skeletal remains of palaeanthrope races, Stratz maintained the theory that, "Man is not a descendant of an ape, but is a cousin to him; that man and monkey are two separate and distinct species sprung from a common parent," Ranke answered that "Such a hypothesis is purely a matter of imagination." "Thus it frequently happens," remarks that distinguished Monist, Professor Schwalbe, "that views based on a few facts have been regarded as

* Appendix, Note III.

† See Appendix, Note IV.

definitely obtained scientific results by those who have not studied the matter closely, because these views have been enunciated with peculiar assurance." So the Piltdown skull and the Moi race of men with tails are buried with no hope of a resurrection.

"The Moi race?" Yes.

In 1896 M. Paul d'Enjoy returned to Paris from the Indo-Chinese region and said that he had met and spoken with members of a Moi race of men who had tails, and ankle-bones which resembled the spurs of a cock, and could climb and live in trees like monkeys. Scientific and fashionable Paris went into ecstasies, for, at last, the link uniting man and brute was found. M. de le Cour, however, proved M. Paul d'Enjoy to be a *farceur*, and his Moi men to exist only in Paul's imagination. We cannot but admire the patience, zeal and industry which these men devote to the study of man's origin. The discoveries they make and the scientific truths they unfold cannot conflict with the truths of revelation, for universal truth is but from the immortal and cannot contradict itself. If error is, at times, mistaken for truth, the scientists of the future will, themselves, detect and extrude it.

When fossil remains of the ape-man are found, then the supporters of the Darwinian theory will have some substantial foundation on which to construct their arguments. If these fossils of the ape-man exist they cannot escape discovery. Until this discovery is made, the Darwinian claim is outlawed, and cannot be considered as even a serious scientific hypothesis.

When the speculative accretions which have been added to the discoveries of the scientists are removed, it will be found that these discoveries do not and cannot affect the validity of the Mosaic account of the origin of man. There is no conflict between scientific or physical truth and revelation; the war is between the spirit of unbelief and a living and active Christianity.

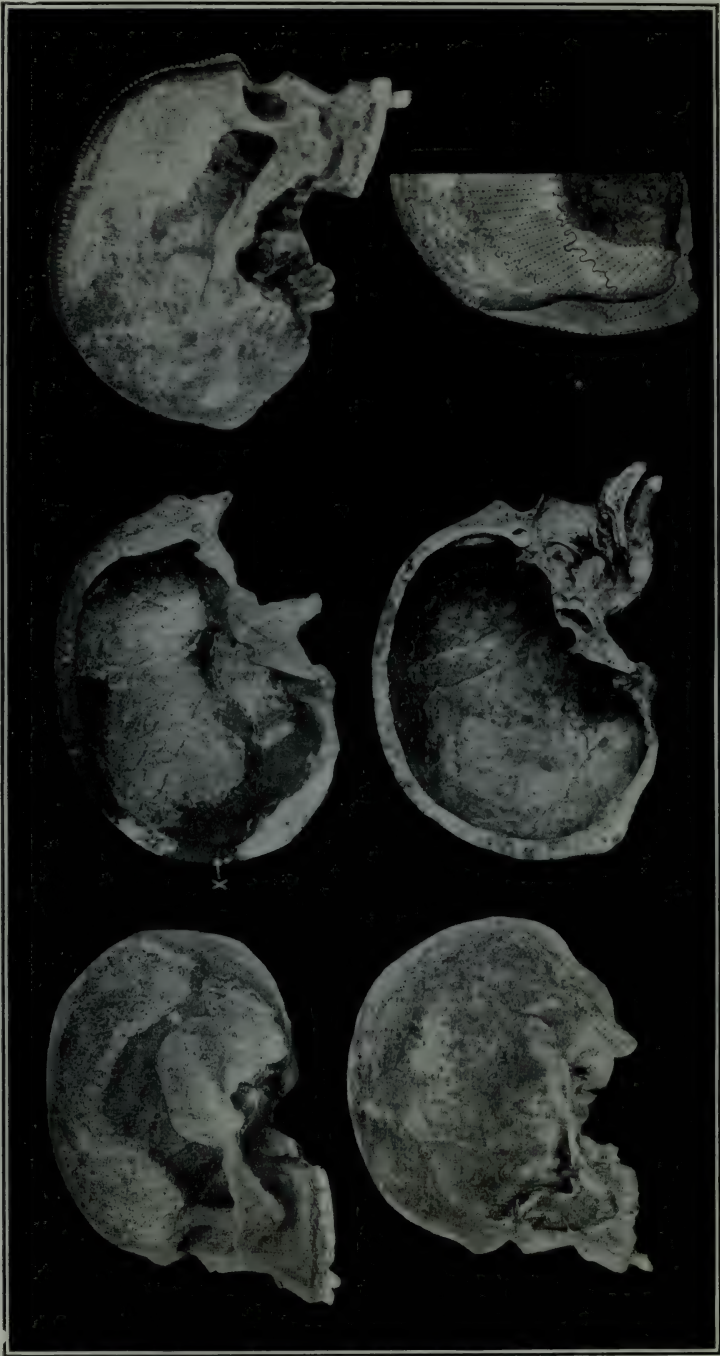
APPENDIX

NOTE I.

That he might triumphantly support his theory of Evolution, Haeckel, the German zoologist, has repeatedly distorted facts to adjust them to his theories. As a scientist, he has disqualified himself. In his books on the descendance of man in relation with his monistic religion, Haeckel simply falsified well-known photographs of embryos and even invented some of them. Haeckel himself was driven to admit that he had *modified* some of the pictures he published, but not more than seven or eight per hundred. "Anybody interested in the matter," writes Jules Duesberg, of the Carnegie Institute, Washington, should read the exceedingly sharp criticism of Haeckel's methods published by Dr. F. Kiebel, Professor of Anatomy at the University of Strassburg, and approved by the most prominent German anatomists and zoologists. "Haeckel sees things as he wants them to be."

NOTE II.

Writing to the *Daily Tribune*, London, November 4, 1876, Thomas Carlyle says, "So-called literary and scientific classes in England now proudly give themselves to protoplasm, origin of species and the like, to prove that God did not build the universe; I have known three generations of the Darwins—grandfather, father and son—atheists all. The brother of the famous naturalist, a queer man who lives not far from here, told me that among his grandfather's effects he found a seal engraven with this legend: "Omnia ex conchis" (everything from a clam shell!). I saw the naturalist not many months ago; told him I had read his "Origin of Species" and other books; that he had by no means satisfied me that men were descended from monkeys, but had gone so far persuading me that he and his so-called scientific brethren had brought the present generation of Englishmen very near to monkeys. A good sort is this Darwin, and well-meaning, but very little intellect. Ah! it is a sad and terrible thing to see nigh a whole generation of men and women professing to be cultivated, looking around in purblind fashion and finding no God in this universe. I suppose it is a reaction from the reign of cant and hollow pretence, professing to believe



PILTDOWN SKULL AND THAT OF AN AUSTRALIAN BUSHMAN.
Upper row, Piltdown. Lower row, Bushman. *Scientific American*, January 30th, 1915.

what in fact they do not, and this is what we have got; all things from frog spawn; the gospel of dirt the order of the day. The older I grow—and now I stand on the brink of eternity—the more comes back to me the sentence in the Catechism which I learned when a child, and the fuller and deeper its meaning becomes:

“What is the great end of man? To glorify God and enjoy Him for ever!” No gospel of dirt, teaching that men have descended from frogs through monkeys can ever set that aside.”

NOTE III.

THE PILTDOWN MAN.

“Doubts which have been entertained from the first by many anatomists as to the association of the Piltdown jaw with the Piltdown skull appear to be entirely confirmed by the recent exhaustive comparative study made by Jerrit S. Miller, Jr., of the United States National Museum. He has shown that those portions of the Piltdown jaw preserved, including the upper eye-tooth, are generically identical with those of an adult chimpanzee.

This conclusion, which has been accepted by several eminent comparative anatomists, has two very interesting results: first, it deprives the Piltdown specimen of its jaw and compels us to refer the skull to the genus *Homo* (man) rather than to the supposed more ancient genus *Eoanthropus* (half man—half ape—dawn man); second, it demonstrates the presence of anthropoid apes in Europe during the glacial epoch.”

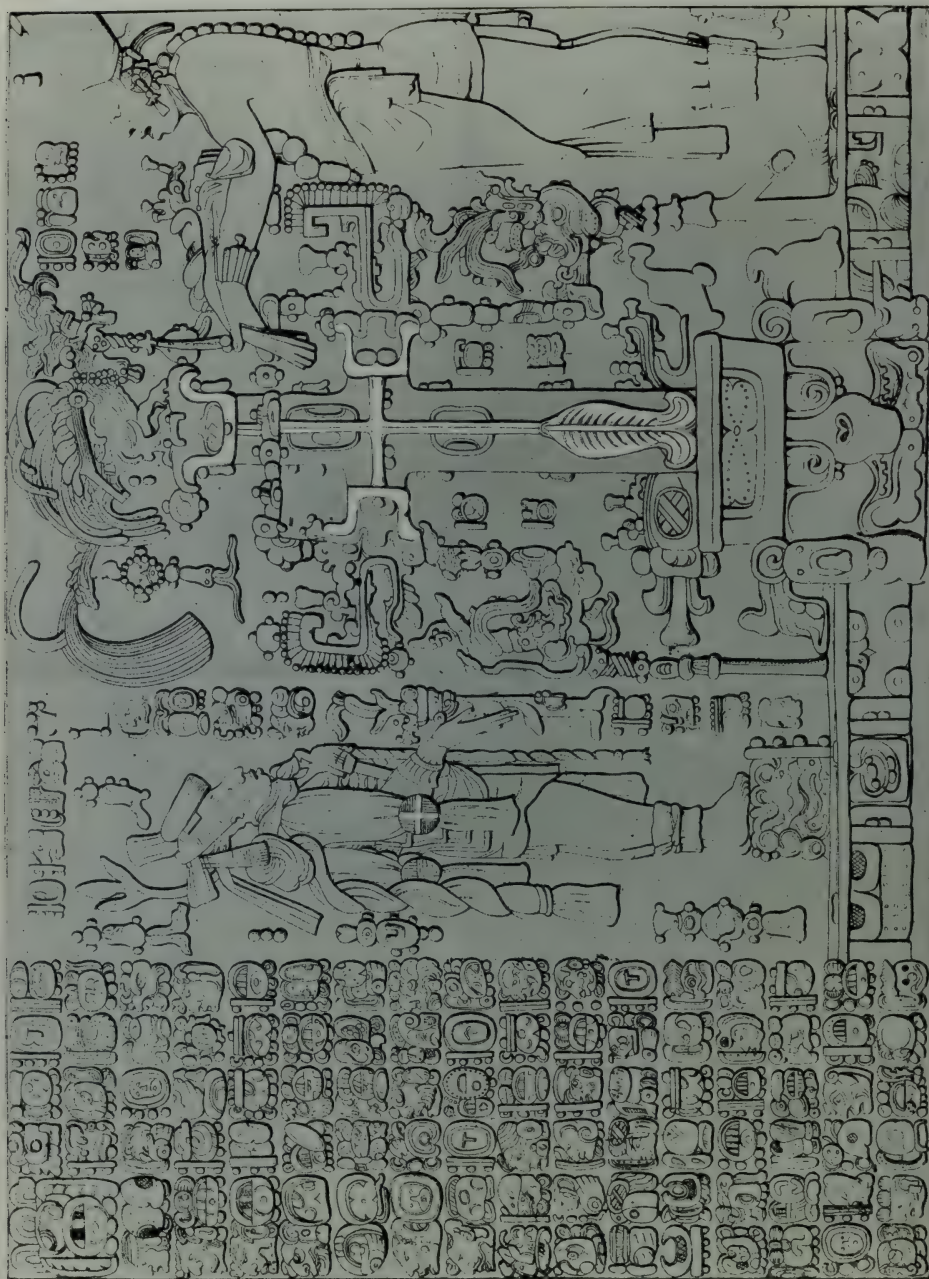
“Men of the Old Stone Age.” Second Edition. March, 1916.

NOTE IV.

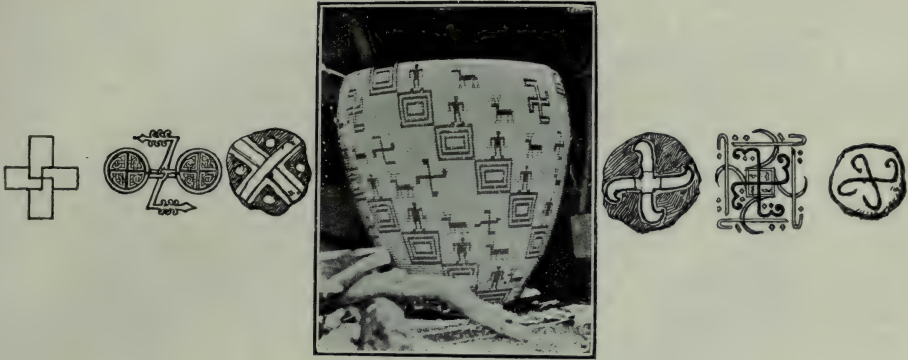
THE PILTDOWN FREAK.

Notwithstanding positive proofs showing that the chimpanzee jaw did not belong to the skull, this primitive and ape-like monstrosity was brought from London, England, and placed on view in the anthropological department of the San Diego Exhibition, Southern California.

Thousands of visitors to the Exhibition saw this restoration of the Piltdown head and were informed by card and curator that it was the *Eoanthropus Dawsoni* or Dawn-man—Darwin's Missing Link. Without doubt the official who carded the exhibit and the curator himself knew nothing of the imposition staged for the public. Possibly Professors Dawson and Woodward are still unconvinced, for scientists who begin with a hypothesis insist upon seeing everything in the light of that hypothesis.



The Palenque Cross and Hieratic Writing; in Mexico National Museum.



III

THE PRE-CHRISTIAN CROSS

VERY REV. W. R. HARRIS, D.D., LL.D.

In the volume embracing the papers read before the International Congress of Anthropology (Philadelphia, 1893) there is a learned disquisition on "Various Supposed relations between the American and Asiatic races," by that eminent anthropologist, the late Dr. Daniel G. Brinton. After reviewing the reckless statements made by a few writers, who endeavoured to find analogies between the Eskimoan and Ural-Altai races and establish an Asiatic origin for the American Indian, Dr. Brinton continues: "But the inner stronghold of those who defended the Asiatic origin of Mexican and Central-American Civilization is, I am well aware, defended by no such feeble outposts as these, but by a triple line of entrenchment, consisting respectively of the Mexican calendar, the game of Patolli, and the presence of Asiatic Jade in America." In conclusion, he declares that: "Up to the present time there has not been shown a single dialect, not an art or an institution, not a myth or a religious rite, not a domesticated plant or animal, not a tool, weapon, game, or symbol, in use in America at the time of the discovery which had been imported from Asia, or from any other continent of the old world."

I may add that this expression of Dr. Brinton's belief is applauded by many eminent American Antiquaries, who, with him, have now abandoned the search for Egyptian, Babylonian, or Chinese influences underlying the ancient civilization of Central and South America as profitless, if not a waste of time.

But is not Brinton's creed too positive and dogmatic, face to face with the bewildering similarities between the cultures of Asia and America? The great German, Von Humboldt, tells us in his "*Voyages aux regions Equinoxiales du Nouveau Continent*" that he found among the tribes of the Western Continent things and ceremonies similar to what he afterwards saw in parts of Asia. Professor Culin, in his paper "America the Cradle of Asia," writes: "We find in America things not only similar to those of Asia, but precisely identical with them." He instances as an example the "Straw Game or Indian Cards" played by the Hurons and among tribes from the Atlantic to the Pacific coast, as identical with the Japanese Yeki and the Chinese Yi. Towards the end of his address he makes this startling statement: "The games of the Eastern Continent—and I speak now of what we know of the remote past—are not only similar to, but practi-

cally identical with, those of America, and are not only alike in externals, but in their morphology as well.”*

Tentatively we might venture to explain or account for this singular identity by assuming that it was simply accidental, but this assumption can have no standing in the case of other examples cited by Alexander Von Humboldt and Professor Culin. Take for example, the cross, particularly that very ancient and hieratic symbol, the Grammata Cross, commonly known as the Swastika, the mention of which is so strangely omitted or forgotten by Brinton and Culin.

The symbol which, beyond all others, goes back to the Deluge and, for aught we know, to the Garden of Eden, is the cross. Anthropologists and Archaeologists in Europe and America dwell upon its sacredness in many natural religions and have invariably assigned to it a very great antiquity. Nearly all have reverently admitted its origin and symbolic meaning as a great mystery.

In our study of the sacred symbol we will go back to the death of Adam.

THE CROSS OF SETH, SON OF ADAM.

Before we begin the study of the mysterious Swastika and the singular rites with which this hieratic symbol was intimately associated among nearly all ancient nations and among many tribes of the old world and the new, let us deal reverently with the Cross of the Crucifixion, its origin and vicissitudes. There is a strange legend, found in the Sacred Books of the Copts, originating in the apocryphal last Gospel of Nicodemus—a ruler in Israel who visited Jesus when darkness shrouded Jerusalem. The legendary narrative informs us that when Adam lay sick unto death, his son Seth appeared at the entrance to the Garden of Eden and begged of the Angel with the flaming sword for a small cruse of oil from the Tree of Mercy that he might anoint the eyes of his dying father. By the side of the Angel guarding the entrance to Paradise stood a Spirit of radiant beauty who, moved by compassion for the sorrowing Seth, went to the Tree of Mercy and broke off a small branch of this tree, so intimately identified with Adam's fall: “Your father died when you were on your way here,” said the Spirit to Seth, “but return with this branch and plant it at your father's head, and say to Eve, your mother, that when this branch becomes a tree, and is again planted, it will bear one very precious fruit, and that when that fruit is taken from the tree, she and Adam will enter into Paradise.”

Seth returned, opened his father's grave, and at the head of Adam planted the branch. In time it grew to be a large and very beautiful tree which was standing and fair to look upon in the reign of the great King Solomon. When Solomon was laying the foundations for his wonderful Temple, he thought of the beautiful tree, and wishing to preserve its wood for all time, ordered it to be cut down and sawed into beams for the Holy Building. The workmen felled the “Tree of Seth,” but, when they began to cut out the beams, their saws made no impression on it, so, worn out by repeated trials, they stealthily carried it away by night and threw it across a stream where it was used as a bridge.

As the Queen of Sheba was on her way to visit Solomon, she came to this brook; but when she was about to step upon the tree-bridge, she stopped, drew back, and, moved by a feeling she could not control, fell upon her knees and refused to cross the bridge. Then when, brought by another road, she was received with great honours by the King of the Jews, a divining spirit entered into her and she

* This scholarly address was published in *Harper's Monthly Magazine*, March, 1903, pp. 534-540.



TAU CROSS.
From the Tridentine Missal.

prophesied that a time would come when the death of One who would be the fruit of the bridge-tree would end for all time the Empire of the Jews.

Solomon, astonished and alarmed by her prediction, ordered the tree to be taken away and buried deep in the earth.

Many years after the death of King Solomon, when the Queen of Sheba and the tree were forgotten, the Jews made, over the ground where the tree was buried, a pond for washing sheep, called afterwards the Probatica, or the Pool of Bethesda. At once, because of the sacred wood, this pool became wonderful. The sick and those suffering from disease bathed in the water, then an angel breathed upon the pool and all at once the water began to be troubled, and the first person who entered into it after the angel had passed over received renewed health because of the blessing of the angel and Seth's tree buried beneath.

Now the morning before Judas betrayed our Saviour, this tree of Seth rose to the surface of the water and was seen floating in the pool by a man named Simon, a Cyrenian. This Simon lifted up the tree from the pool and sold it to a carpenter who, the next day, was commanded to make crosses on which three malefactors were, that afternoon, to be crucified. And one of the malefactors was Jesus of Nazareth. Now from the tree of Seth he made one of the crosses, and this cross was the one that our Saviour, assisted by Simon the Cyrenian, carried from Pilate's Court to Calvary, and on which He was crucified, the first and only fruit it ever bore.

THE CROSS OF JESUS.

We now reach a period when the legendary dissolves into the historic and makes tradition. After the crucifixion, and while the body of Christ lay in the tomb of Joseph of Arimathea, and the bodies of the two thieves were thrown into the Gehenna, the common dumping ground, as food for fire or carrion-birds, the three crosses and the instruments of crucifixion—the nails and ropes—were buried in conformity with a long established custom of the Jews.

When Constantine the Great and Maxentius contended for the Imperial Crown, Constantine, worn with fatigue, entered his tent one afternoon and sought repose. While he slept he dreamt that an angel came to his cot, and, placing a hand upon his head, told him to look up. Then the silken covering of the tent disappeared and the Emperor saw a great and luminous cross in the heavens, and, immediately over it, in large letters of burnished gold, was the inscription: "By this sign thou shalt conquer." Late that night he again saw in a dream the luminous cross and then Christ appeared to him and told him to carry a figure of the cross on his banner and standards.

Constantine summoned his captains to a consultation and made known the vision. The pagan Emperor and his pagan generals agreed that the dream was of happy omen, and that the voice of the angel and the apparition of the mysterious Jew meant the friendship and aid of a strange god. The following day, on the Imperial Banner, the cross was blazoned and to the Imperial Standard was given the name "Labarum—the Gift of God." When Constantine met the troops of Maxentius at the Milvan Bridge, he won a great victory. His soldiers, though nearly all pagans, went into battle carrying the monogram of Christ on their shields. This battle, which was fought October 28, 312, led to the conversion to christianity of Constantine and his mother, and to the downfall of paganism as the national faith of Rome.

After defeating Licinius in a pitched battle on the plains of Italy, Constantine returned to Rome and issued his famous "Edict of Tolerance," proclaiming

freedom of worship. Hearing that it was the custom of the Jews to bury the wood on which the condemned were crucified, Constantine asked his mother Helena to go with an Imperial retinue to Jerusalem and find, if possible, the cross on which Jesus Christ was crucified. Helena, then eighty years of age, went to Jerusalem and began her search for the true cross. While excavating at "Golgotha—the place of skulls"—the diggers came upon the three crosses, but the title-board bearing the inscription "Jesus of Nazareth, King of the Jews" was lying at a distance from the crosses and no one could tell to which one of the three it belonged. Macarius, a Christian Bishop, who was standing near, caused the three crosses to be carried, one after the other, to the bedside of a worthy woman who was at the point of death. The woman by the advice of Macarius placed her hand on each of



RUINS OF TEOTIHUACAN.

the crosses, and when she touched that on which Christ was crucified, she was immediately restored to health.

After a time Constantine and his mother erected a magnificent Basilica over the Holy Sepulchre, which was destroyed by the Turks in the 13th Century.

This then is the tradition handed down to us from the early centuries. It may or may not be true.

BIRTH OF THE CROSS.

Let us now, before we deal with the Swastika and the commanding symbolism of the cross among the very remote nations of antiquity, glance at the position the cross fills in the Bible, and possibly trace the origin and the conspicuous position

it occupies in the iconography (i.e. images, pictures, etc., of ancient arts and religions) of the early races in the old world and in the new.

In the second chapter of Genesis, verse 10, we read: "And a river went out of the place of pleasure to water Paradise, which from thence is divided into four heads"; which means that the river with its tributaries flowed towards the cardinal points, or east, west, north and south. Here we have the cross. From the time of Adam, who lived one hundred and thirty years, the tradition of the locality of paradise and its four rivers, crossing at right angles, would remain in the memory of his scattered descendants. From them it would be transmitted to their successors, who, forgetting the patriarchal religion of Adam and inventing new forms of worship, would yet retain the traditions of Adamic days though in a mutilated and fragmentary form.

They associated the rivers with fertility and abundance, and, as they now had "fashioned gods unto themselves," they quite naturally gave to the god of fertility and of water the symbol of the four rivers of paradise. In the twelfth chapter of Exodus we read: "And take the blood (of the lamb) and mark the upper door posts of the houses and the lintels." This instruction is given as a command to Moses by an Angel with the voice and in the Name of God, and by Moses delivered to the Chosen People the night before the Angel of Death strikes the first-born "in the land of Egypt, both of man and beast." St. Jerome, in his dissertation on the 97th Psalm, contends that the mark of blood on the door posts of the enslaved children of Israel took the form of a cross, thus **T**, the Hebrew Tau, and he is probably right, for as the lamb symbolised our Saviour—the Lamb of God—and the blood, His blood, it was fitting that the cross on which He was to be crucified should appear and establish the symbolic unity of the Triune God.*

Once more, and for the last time before the real cross, the Cross of Jesus Christ, is raised aloft for the Redemption of the human race, the symbol of the cross confronts us in Holy Writ. It is worthy of remark that in this instance, as in the case of the redeemed Israelites, the cross is intimately associated with blood and mercy. This is what we read in the ninth Chapter of Ezekiel, fourth verse: "Go through the midst of the City (God is commanding His Angel) through the midst of Jerusalem and mark Tau—**T**—upon the foreheads of the men that sigh and mourn." By the mark of the cross on their foreheads the destroying Angels know those who should be spared and passed them with a benediction.

* Our Saviour was crucified on a Tau-T-Cross. The small headpiece bearing the inscription, "Jesus of Nazareth, King of the Jews," was nailed to the transverse beam of the Tau, thus forming what is now called the Latin Cross, thus **+**. Death by the cross was common among the Syrians, Egyptians, Persians, Greeks, Romans and Jews. Pharaoh's chief baker was beheaded and his body fastened to a cross (Gen. xl: 19). Haman prepared a great cross on which to hang Mordecai (Esth. vii: 10). The Jews do not admit that they crucified living men. They contend that they first put them to death, and then fastened them to the cross by the neck or the hands. But though there are many examples of men thus hung on the cross after death, there are indisputable proofs of living crucifixions in their history. The worshippers of Baal-Peor (Numb. xxv: 4) and the King of Ai (Josh. vii: 22) were hung on the cross alive. Alexander Jannaeus, King and High Priest of Jerusalem, seventy years before the Christian Era, crucified eight hundred of his rebellious subjects at a great entertainment organized for his friends. The seven sons of Saul were also crucified while alive, by the Gideonites, and this was done by permission of King David (2 Sam. xx: 9). The three hundred citizens of Tyre, crucified on the seashore by order of Alexander the Great, were nailed to the "Cross Ansata or Phalloid." The Macedonian general ordered the crucifixion by the Phalloid to show his contempt for a people who were given to phallic worship.

THE CROSS OF TEOTIHUACAN.

Twenty-seven miles south-east from the City of Mexico, on the way to the sea, are the ruins of an ancient Toltec city covering an area of about two miles. Very near these ruins is the quaint village or mission of San Juan de Teotihuacan which, at once, offers to the antiquary two of the most remarkable examples of Toltec remains in stone yet found in the Republic of Mexico.

When, in 1519, Cortes, with his mailed company of heroic fighters, on his way to the conquest of Mexico, passed this heap of ruins, more than one thousand years had expired since the foundations of the ancient city were laid.

Around the walls of this capital of a very old and half-civilized empire, the two oldest civilizations of America, the Quiché from the south and the Nahoé from the north, met and united. Here are the famous and very curious pyramids of the Sun and the Moon. They rise from the banks of the little river of Teotihuacan. Here also is the Street of the Dead, and here—cut from a single block of stone—was found, not long ago, the cross of Teotihuacan, now in the National Museum, Mexico City. We will return to it, but let it rest for the present.

UNIVERSALITY OF THE CROSS IN ANCIENT TIMES.

In Egypt, in the days of the Pharaohs, the cross figured on the gigantic statue of the god Serapis, which, three centuries before the Christian Era, was transported by order of Ptolemy Soter to Sinape on the southern shore of the Black Sea. Six centuries after the death of Soter, this Egyptian idol, with its cross, was destroyed by the soldiers of the Emperor Theodosius, against the pleadings of the priests of Isis and Sorosis to spare the cross, the emblem of their god and of generations yet unborn.

Among the the Phoenicians, the Tyrians, the Carthagenians and Sidonians, the cross occupied a conspicuous place in iconography, that is in their ancient religious art, as represented by symbols, images and mural sculpture.

With the serpent is was a central object of reverence among nearly all ancient races. It is figured on the Phoenician coins found among the ruins of Trocadero. It was found, wonderfully sculptured and embellished, in the sand-buried Nineveh. Rollin, in his history of ancient peoples, says that Alexander the Great, when he reduced, and entered with his soldiers, the city of Tyre, crucified on the sea shore three hundred of its noblest citizens, and "this the Macedonian did," writes Plutarch, "to show his contempt for the cross, which they worshipped."

The Phoenician "Temple of Gigantica" was built in the form of a cross.

In India it was the symbol of Buddha and was cut by the Brahmins into the walls of the Cave of Elephanta, one thousand years before the Redemption. It is seen to-day in India in the hands of the statue of Siva, Brahma and Vishnu. Among the Gauls, in Caesar's time, it was the sign of their water god, and the Druids used it in their religious ceremonies.

THE CROSS IN ANCIENT AMERICA.

When the Spanish missionaries learned, soon after the discovery of America, that the cross was worshipped in Mexico and Central America, they did not know whether they ought to account for its existence and adoration among these strange people to the pious zeal of St. Thomas, the Apostle of the Indies, or to the sacrilegious subtlety of Satan.

Sahagun, in his "*Cronica de Neuva Espana*," informs us that the cross was an object of worship in the great temple of Cosumel, Yucatan. He writes: "At the foot of the tower of the temple, there was an enclosure of stone work, graceful and turreted; and in the middle was a cross ten palmos high. This they held and adored as (the symbol of) the god of rain." (Lib. I, C. 2.)

In 1878, the French anthropologist, Désiré Charney, discovered an abandoned and ruined city in the country of the Lacandones, Chiapas. By a strange coincidence Charney met here the English explorer, Mr. Alfred Maudsley and his companions. This newly discovered ruin is supposed to be the Phantom City of Stephens. This phantom city, according to Charney in his "*Ancient Cities of the New World*," (Chap. 22), stands on the left bank of the Larganitos River, in a region hitherto unexplored, between Guatemala, Quezaltenago and Chiapas.

Among the strange things discovered in the great ruin, Charney tells us of a bas-relief which he describes in his book, and from which we quote: "It fills the central door of the temple and is 3 ft. 6 in. long by 2 ft. 10 in. wide. Two figures with retreating foreheads form the main subject, having the usual head-dress of feathers, cape, collar, medallion and maxtli. The taller of these two figures holds in each hand a large cross, while the other bears but one in his right hand. Rosettes end the arms of the crosses, a symbolic bird crowns the upper portion, while twenty-three Katunes are scattered about the bas-relief. We think this a symbolic representation of Tlaloc, the Maya god of rain, whose chief attribute was a cross."

Charney, in his deeply interesting work, presents drawings of crosses found in the pre-Toltec city of Mitla, Mexico, at Mayapan, Yucatan, and indeed of crosses found all over the land from the Southern Guatemala to Northern Mexico.

Everywhere, even to-day, may be seen diversified forms of the cross, more or less artistically delineated on the walls of the temples, on ancient buildings, on galleries and natural rocks, in caves and on vases and pottery dug from the soil.

In the pre-Columbian city of Palenque, Chiapas, there dominates the forest-shrouded ruins a remarkable building, known to American antiquaries as the Temple of the Cross. This structure bears a striking resemblance, in its dilapidation, to an early Italian temple and, in age, probably antedates by many years the Roman Coliseum.

The floors of the corridors and of many of the rooms are laid in cement as hard as the best seen in the remains of Roman buildings. The walls are about ten feet high and some carry the Greek cross + while others bear the Hebrew or Egyptian T. These crosses have occasioned much learned speculation.

In the inner sanctuary of this temple was found in 1783 a wonderful tablet in stone, now in the National Museum, Mexico City. It is called popularly the "Palenque Cross" and, archæologically, "La Cruz Enramada de Palenque." It is eleven feet wide by six feet high. It deserves to be examined closely. The man standing to the right of the cross and holding aloft a newly born babe is the god of fecundity returning thanks to Votan, the Jupiter of the Mayas, for driving from the land the evil spirit of sterility. The opposite figure represents Hunaphue, one of the gods, who serves and ministers to the supreme god Votan. On his scarf is the transverse cross, emblematic of fertility among the Quichés, the Mayas, and of all the semi-civilized or civilized races of Mexico and Central America long before the coming of the Spaniard. It was also, among the Egyptians, the symbol of the equinoxes or times of rain. The bird perched upon the cross is the Cuevite or Royal Quetzal, sacred to the sun. The hieroglyphics on the left of the tablet,

among them the Tau, have not to this day been deciphered. If we could read them, they, perhaps, would explain the full meaning of the representation and might furnish a clue to all the hieroglyphics on the ancient monuments of Mexico and Central America.

This tablet of the cross, with its mysterious figures and symbolic writing, has led to more learned speculation than any other relic—the “Calendar Stone” alone



STATUE OF HUNAPHUE. PALENQUE.

excepted—found in the vast regions of Mexico and Yucatan. The French military explorer, Capt. Dupaix (1807) and his commentators, believe Palenque belongs to a very remote antiquity and antedates by many years the Christian Era. He accounts for the appearance of the cross among these ancient Americans on the assumption that it was known and had a symbolic meaning among pre-Christian nations long before it was established as the emblem of Christianity.

Désiré Charney mentions another tablet of the cross found also at Palenque, one panel of which is now in the Smithsonian Institute, Washington.

The English archæologist, Alfred Maudsley, who, in 1879, explored the ruins of Palenque, agrees with Charney when he states that "it was a cherished symbol among nearly all ancient races in Asia and America thousands of years before it was accepted as the symbol of the Christian Faith at the time of Constantine." Conceding his contention to be true, we are then brought face to face with a problem of serious import, and that is: What did the cross stand for, or what did it symbolize to those ancient peoples and those lost civilizations?

Without, in any way, compromising my independence of thought, or identifying myself with any party, I am free to state what, in my opinion, the pre-Columbian cross in America symbolized in the religious lives of the Mexicans and Mayas. From the dim traditions which yet linger among the tribes of Central America, from the civilized Indians, and from conversations held with the priests ministering to these Indians, I am satisfied that the cross was the symbol of the god of rain, of water, and fertility. I refer now to what we call the Greek Cross +



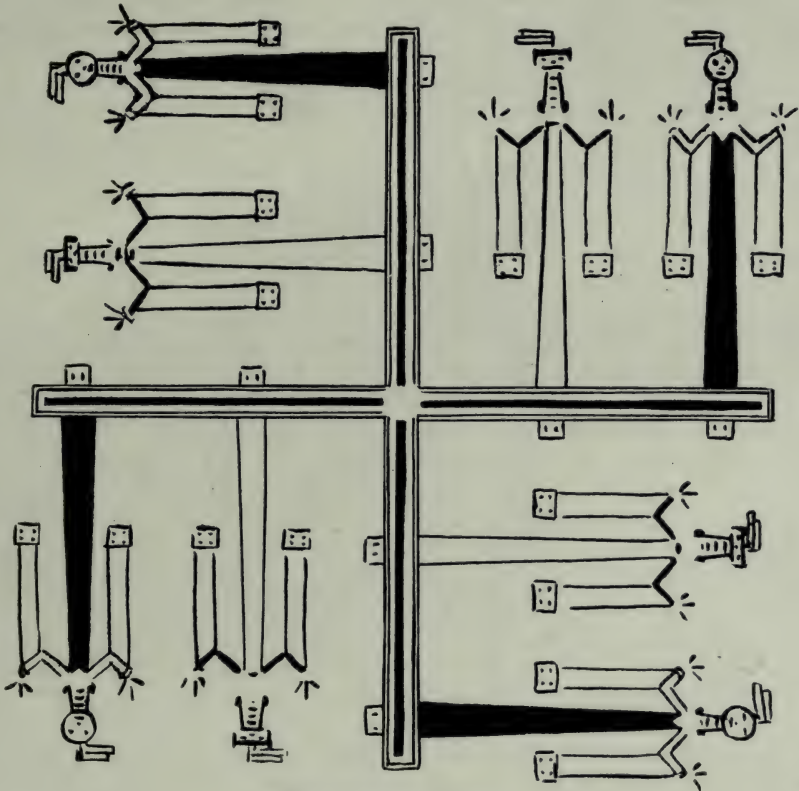
RUNIC STONE. ZEELAND.
Pre-Christian.

and not to the Swastika with which I will presently deal. The Mexican astronomer, Pelagio Gama, is of the opinion that the "Cross of Teotihuacan" served for an astronomical expression of the vernal and autumnal equinoxes when days and nights are of the same length; the times, March 21st and September 22, when the sun in its revolution stops for a moment, crossing the Equator.

It was to the cross that the dwellers on the Aztec Plateau made a pilgrimage to Cholula to invoke the help of Quetzalcoatl, god of the winds, and offer sacrifices to him that he might send down rain upon their parched lands.

At the foot of the cross the people of Oaxaca offered their supplications to Votan, "Heart of the Heavenly Kingdom," when their lands were parched with prolonged droughts, and it was before the "Cross of Cozumel" the Mayas and Quichés stood when they petitioned their god Chuchulcan to send them rain and save their crops from the locusts and the hot winds. The temple of the cross on the Island of Cozumel off the coast of Yucatan was frequented, at times, by such multitudes from Tabasco, Chiapas, Honduras and Yucatan, that paved roads were constructed from the distant towns to the shore where embarkation was made for Cozumel. (Cogolludo, "Hist. de Yucatan," Book IV. C. 9.)

It is a singular and striking analogy, that among the Egyptians in the time of Moses, the cross was also the symbol of rain and fertility. Placed in the hand of Osiris, it was the emblem of spring, and in the hand of Isis it represented autumn and the inundation of the Nile. In Yucatan the crosses in the temples of Nachan, the god of dews, and the Taus—**T**—discovered in the ruins of Chi-Chin-Itza symbolized the overflow of the waters of the Uzumacinta and Tabasco Rivers on the bordering lands. As the inundation of the Egyptian Nile is periodic and caused by the great rains falling on the mountains of Ethiopia, so the overflow of the two rivers of the peninsula of Yucatan results from the rains which fall on the distant mountains of Cachumatanes.



THE SWASTIKA CROSS.
On Navaho Altar Floor.

THE SWASTIKA CROSS.

I was in Tucson, Southern Arizona, fourteen years ago, when a jeweler showed me a strangely designed scarf-pin he had made to the order of a lady, a guest at the Santa Rita Hotel. It was fashioned in gold and the design was peculiar and unique. The jeweler asked me if I had anywhere seen anything like it, and, if so, by what name was it known? I answered that I had seen the design painted on Navajoe blankets and on Zuni and Papago ceremonial articles on exhibition in the anthropological department of the Field Columbian Museum, Chicago. I could

not tell him the name of the symbol or what it stood for. So far as I know, this strangely fashioned gold pin was the first of its kind made in the United States, and with it began the remarkable vogue which made the uncanny design a popular ornament as a belt-buckle, brooch, scarf, and hat-pin.

The jewelers and curio dealers will tell you now that this weird design, with each of its four arms bent to a right angle, is called the "Swastika" and that it is an Indian amulet conferring good luck and prosperity on the wearer. The Tucson jeweler, had he known of the wonderful properties of the thing he had just finished, might have sold a gross of the enchanted pins, in a few weeks, to the citizens of Arizona and to tourists from the east.

This mysterious symbol, wherever found, in Europe, Asia, Northern Africa, or America, marks the migration of a great and numerous race of a common origin or of common religious affiliations. It was the symbol of the water god of the Gauls and is known to French and German anthropologists as the Gramponné. Among the Scandinavians it was the "Hammer of Thor," their war god. It was cut into the temple stones dug by Schlieman from the ruins of Troy, and burned into the terra-cotta urns found by Désiré Charney in the pre-Toltec city of Teotihuacan, Mexico. It was an iconism of the ancient Phœnicians and was carved on the walls of the inner sanctuary of the Temple of Gigantea. It was chiseled, thousands of years before the Redemption, by the Brahmins on the sacrificial stones in the Cave of Elephanta, India.

It is the "Hylfol" cross of Buddha and is seen to-day on the breast of Buddha, in China; and many of the ancient temples of India, Burmah, Cambodia, Java, and Corea show a high development of the Swastika in ornamental embellishment. Bishop Hanlon, Vicar-Apostolic of the Upper Nile, says: (I. C. Missions, Oct., 1894) that it is a symbol of worship among the Ladacks, a Buddhist community, living in Gebel-Silsili and in the land of Edfou, Egypt.

When we search for it in Europe and America we are surprised to learn that Cedric the Gaul carries it on the sail of his ship when he enters the Port of Bally, Isle of Man, one hundred and fifty years before the Christian Era. It was venerated by the pagan Icelanders, as a magic sign of the god of the winds and by the Celtic Druids in their forest rites in the oak groves of Ireland and Scotland.

In a foot note to the Sagas, first edition of Longfellow's Poems, we are told that the Hammer of Thor, the Scandinavian god, who gave his name to Thursday, was shaped like a Swastika. It was with this mighty hammer Thor crushed the head of the Midgard serpent and destroyed the giants. Longfellow, after recording the conversion to Christianity of King Olaf, tells us in charming verse how the King kept Christmas or Yule-tide at Drontheim:

O'er his drinking horn, the sign
He made of the Cross Divine,
As he drank and muttered his prayers;
But the Berserks evermore
Made the sign of the Hammer of Thor
Over theirs.

Long after the conversion to Christianity of the Norsemen, the Swastika hammer of Thor was retained in festal ceremonies and was often introduced into ecclesiastical decorations.

The eminent Egyptologist, Prof. Edouard Naville, when excavating (1912) in Abydos, the modern Arabat, Upper Egypt, tells us he found the Swastika on the

tomb of Osiris and among the inscriptions and designs on tablets buried for five thousand years in Upper and Lower Egypt.*

Professor Petrie says it is on the pictorial representation of the "Judgment of Death," done sometime after Menes, the first of the Pharaohs, became the god Osiris.

Among the wonderful articles—paintings, statuary and unfamiliar objects—on exhibition in the Boston Museum there is a large painting on silk. This is the "Fugie" which six hundred years ago hung in a Temple of Buddha, Japan. It pictures Buddha seated on a throne of ivory and gold, surrounded by winged spirits and, higher up in the painting, two minor divinities. Between these two divinities, in the centre of a golden ring, is a brilliant Swastika resting on a cushion of silk. It is sacred to Buddha and is one of the marks by which his worshippers will know him, when he returns to earth.

In the woven fabrics found in Swiss Lake dwellings of Neolithic man, in Scandinavia and in nearly all parts of Europe, we find this strange emblem. It is



THE CROSS OF CEDRIC THE GAUL.†

cut into the old Devonshire stones, a good specimen of which is in the Museum of Torquay, England. It was a sacred sign among the British Druids and, strangest of all, among the Nilotic negroes, it is to-day found shaven upon the heads of locally famous warriors.‡

Turning now to ancient America and looking over the known pre-Columbian world we see the Swastika on monuments, sacrificial altars, and on small and comparatively insignificant articles of pottery and moulded ware.

M. Désiré Charney, as late as 1869, in his expedition to Mexico and Yucatan, dug up the now well known "Cross of Teotihuacan," which had been fashioned

* Encyclop. Met. Article, Egypt.

† Ellan. Vannin. Dy. Bragh.—"The Middle Island for Ever." The Manx motto is—*Quocunque jeceris stabit*—"In whatever direction you throw him, he will stand," referring to the three legs on the shield.

‡ "Uganda," Sir H. Johnston, Fig. 143.



STATUE OF BUDDHA, COLOSSAL FIGURE FROM CHINA.

and set up in the once populous city by the Toltecs in honour of Tlaloc, their god of rain and fertility.* Dr. Hamy, who read a paper before the Académie des Sciences, No., 1882, supports M. Charney in his contention that the cross everywhere in America symbolized water and fertility. Of the time when this cross was raised in Teotihuacan we may only conjecture.

The Mexico-Spanish historian, Torquemada, writes (Tome 2, Lib. Cap. 23 of his History), that Tlaloc was the oldest of the Toltec gods. Certainly Tula and Teotihuacan seem to have been nearly coeval. Tula, according to the native historian Ixtlilxochite, was founded A.D. 556; Clavigero has it A.D. 667, while Vetia makes it as late as A.D. 713. Even if we accept Vetia's date, the cross is very old. At the base of this cross, when found, was a Swastika, boldly sculptured and dedicated to Tezcatlipoca, the god of the winds.

In the last edition of the Encyc. Americana, we read that the Swastika has been exhumed from burial mounds within the limits of the United States.



TERRA-COTTA URN.
Pre-Christian Sweden.

Baron von Humboldt in his "Voyages aux Regions Equinoxiales du Nouveau Continent" (Hauff, 1859, p. 93) tells us it was a conspicuous ornament on the tombs of the Incas of Peru.

Professor Herbert J. Spinden in his "Study of Maya Art" (Cambridge Press, 1913) assures us that everywhere in Yucatan and Central America the Swastika is found on the ancient buildings. It fills a conspicuous place in America to-day in the religious rites of the Navajoes, the Zuni and Papago Indians in New Mexico and Arizona. The sacred totem of the Crow Indians, both mountain and river men, is the Swastika placed above two circles with another Swastika on a disk in the centre of a circle. ("Signs and Symbols of Primordial man," Churchward, 1910.)

The elaboration of this cross in ancient religious and ceremonial rites leading to identities in strange and mysterious features, has proved to be one of the most

* Cités et Ruines Americaines," p. 48 et seq.



METHER CUP.

NOTE.—Mether Cups were in common use among the early Celts in Ireland and Scotland. The ordinary drinking vessel was a *methew* (so called from mead or meth, a fermented liquor of honey and water), made of wood and, at meals or drinking-bouts, passed from hand to hand, each giving it to his neighbour after taking a drink. Many of these ancient *methews* are preserved in public museums and in private collections. The swastika and the Latin cross are carved side by side on a few of the cups. They are found in deep bogs and in remote mountain wilds of Scotland and Ireland and are now becoming very rare. Their antiquity is very great, and when found they are generally blackened with age, resembling bog oak. The photo reproduction is from a cup now in possession of Dr. Charles O'Reilly, "Ballinlough Lodge," St. Clair Avenue, Toronto. It is an exact duplicate of the cup now preserved in Ballinlough Castle, County Meath, the homestead of the O'Reillys of Brefney. The original cup has been in the possession of the O'Reillys since the time (1596) when the Irish chief, Mailmora the "Handsome," better known in Irish history as Myles O'Reilly—"The Slasher," fell at the Battle of the Yellow Ford defending the Bridge of Finea against the invaders of his country. As the cup carries the pagan Swastika and the Christian Cross, it probably belongs to the fourth century, when the Irish Celts were passing from Druidism to Christianity.

singular phenomena of native culture in the New World and indeed in the Old. Nor has anyone been able to account for the perpetuity and universality of this obscure figure.

Professor Black and John Fiske, late of Harvard, say it is of Phallic origin, but it bears no resemblance to the "Crux Ansata," the true Phallic icon, resting in the hand of Serapis at Sinape, and destroyed by the soldiers of Theodosius. John Fiske and Prof. Black, when giving a Phallic origin to the Swastika, forget that nowhere in America has anything been found, or any tradition been handed down, indicating the existence, in the remote past of the people, of Phallic worship.

SYMBOLISM OF THE SWASTIKA.

Among the ancient races of the Old continents and among the pre-historic Southern Indians of North America, and among the early Peruvians, the Swastika was the emblem of the sun and of the winds which blew from the four cardinal points.

The god of the winds was the first offspring of the sun who was, at his rising in the east, saluted with the "Blazing Torch." When the Shaman, after saluting the sun, turned to the four points from which came the winds, he formed a cross and the blaze blown by the winds fell away from the torch and formed the right angles which, in time, suggested the Swastika. Let me illustrate my meaning. In the Tenth Letter of Father De Smets, "Life and Travels among the North American Indians," edited by Major Chittenden (Funk, Wagnall, N.Y.), there is an interesting account of the customs, religious rites, and habits of the Assiniboin.

The great missionary was a privileged guest when the salutation to the Sun and the Four Winds and Water occurred among the Assiniboin. He writes: "Sometimes three or four hundred lodges of families assemble in one locality. One soul individual is named the High Priest and directs all ceremonies of the Festival . . . After these preliminaries the ceremony begins with an address and a prayer to the Great Spirit. He implores Him to accept their gifts, to take pity on them, to save them from accidents and misfortunes of all kinds. Then the Priest holds aloft the smoking Calumet to the Great Spirit, then to the Sun, to each of the Four Cardinal Points and at each time to the Earth."*

Writing of the Cheyennes, Colonel Henry Inman, one time scout and trailer with General Croke, informs us that this formidable tribe had no religion: "If, indeed, we except the respect paid to the pipe. In offering the pipe to the sun, the earth and the winds, the motion made in so doing by them describes the form of a cross; in blowing the first four whiffs, the smoke is invariably sent in the same four directions."†

Here then we have the rectangular cross, coming down through the ages from the time when, in the Garden of Eden, the rivers crossed and made Eden a Paradise of fertility, and the Swastika of Vedaic India retaining the basic cross but altered by the dip of the torch in the hand of the priest, or by the blowing of the flame by the four winds which the Swastika symbolised.

* The Cross and the Swastika in America, particularly in Yucatan and Mexico, are frequently mentioned by the early writers, such as: Garcia, "De Los Indios," Book 3, Chap. VI, p. 109; Sahagun, "Hist. de la Nueva Espana," Book 1, Chap. II; Ixtlilxochtl, "Hist. des Chichimeques," p. 5; Cogolludo, "Hist. de Yucatan," Book 4, Chap. IX; Sotomayor, "Hist. de el Itza y de el Lacandon," Book 3, Chap. 8. In truth, if all references to the Cross were collected from the books and pamphlets left by the Mexic-Spanish writers of the Fifteenth and Sixteenth Centuries, and bound together, they would make a large volume.

† The old Santa Fé Trail, p. 244.

THE CROSS IN THE DESERT.

When travelling in lower California a few years ago, I began on a beautiful morning the ascent of the mount overlooking the little Indian Village of San Hilario. As I advanced I looked up and saw something raise itself above me like a thing alive. It was a giant Suahara, a candelabrum cactus, and near it a yucca tree, whose cream-like blossoms, trembling in the glorious sunlight, seemed strangely out of place in such forbidding surroundings. Higher up and to my left as I ascended I came to a rough and weather-worn cross standing in isolation by the lonely path. It marked the spot where five years before, an Indian wood-gatherer was slain and his body mutilated. On my return to the squalid village I learned that it was a custom among the Cochimis—Digger Indians—to raise a cross over a lonely grave or mark the place where a murder had been committed. The Padres—the missionary fathers—are gone and the chapels they built in the wilderness are now melancholy ruins, but the wandering savage in the desert or on the mountain yet retains the tradition of the sanctity of the cross. The fire the Franciscan Fathers kindled, yet lives, and in every scattered encampment of the Digger Indians, and in every half-breed Xacal, a wooden or grass-woven cross reminds the Peninsular Indians of the Story of the Cross told to their dead sires by the Spanish missionaries, and “So it is,” writes Henry C. Van Dyke, “the untutored dwellers of the desert have cherished what the inhabitants of the cities and the fertile plains have thrown away.” Borrowing the language of the poet we may also say:

“ This is all
The gain we reap from all the wisdom sown
Through ages; nothing doubted those first sons
Of Time, while we, the schooled of centuries,
Nothing believe.”

And now may I end this dissertation on the cross with Longfellow's beautiful reference to the “Cross of Snow,” in the Colorado range, a photographic reproduction of which appeared in the London *Graphic* not long ago.

In the long, sleepless watches of the night,
A gentle face—the face of one long dead—
Looks at me from the wall, where 'round its head
The night-lamp casts a halo of pale light,
Here in this room she died; and soul more white
Never through fire of martyrdom was led,
To its repose; nor can in books be read
The legend of a life more benedict.
There is a Mountain in the distant West
That sun-defying in its deep ravines
Displays a Cross of snow upon its side.
Such is the Cross I wear upon my breast
These eighteen years, through all the changing scenes
And seasons, changless since the day she died.



IV

PRIMITIVE CIVILIZATION OF THE AMERICAN INDIAN

VERY REV. W. R. HARRIS, D.D., LL.D.

Dr. Edgar L. Hewett, Director of the Archæological Institute of America, and Mr. S. G. Morely, an authority on Hieroglyphics, accompanied by two crayon artists, passed the summer of 1912 exploring and uncovering the forest-shrouded city of Quirigua, Guatemala, Central America. The existence of the weird ruin was first made known to the English-speaking world by John L. Stephens, whose companion, Caterwood, visited it in the winter of 1840-41. A description and drawings of some of the monuments may be found in the second volume of Stephens' "Central America, Chiapas and Yucatan," New York, 1841 and elaborate drawings and photographs are inserted in A. P. Maundsley's work, published twenty years before Dr. Hewett's visit to Quirigua.

The New York correspondent of the "London Standard" thinks the origin of the American Indian will be solved by Dr. Hewett. The Doctor himself is almost convinced that the excavations now under way at Quirigua, and the decipherment of the sacred writings on the monuments and tablets of this pre-Columbian city, will unfold the parchment which hides the origin of the mysterious Indian race. After returning in the spring of 1910 from his first visit to Quirigua, the Doctor is reported to have said: "I found the long-dreamed-of key to the origin of the American race. Here before me were monuments so clear in their symbols; building lines so definite in their form; and supplementary details of such positive character, that I realized the task was merely clearing the site and returning with replicas of the glyphs or writings, to make, once and for all time, positively and irrefutably clear, the strange history of these people. . . . The reading of this mass of decipherable data means the answer to one of the world's great scientific questions."

If the eminent Archæologist thinks he can decipher the secret writings on the monuments of Copan, Palenque, or Quirigua, or that "the reading of the mass of decipherable data" will solve the problem of the origin of the American Indian, we fear he is destined to share the disappointment of many presumptuous antiquarians who nursed the same delusion long before Dr. Hewett visited Central America. If the key to the Maya or Quiche secret characters be ever found, and the glyptic writings translated, we are not so sure that they will reflect any light on the origin of the American Indian.



SCULPTURED MONOLITH.
(Quirigua, Guatemala.)



COLOSSAL STATUE.
(Copan, Honduras.)

When Champollion found the key to the Egyptian hieroglyphics, great hopes were cherished that the problem of the origin of the Egyptians would be solved. But neither the characters on the vocal Memnon, nor those on the gigantic pillars at Thebes, nor the secret writings on the fallen obelisk at Karnac, gave any clue to the history of pre-historic Egypt. The Abbé Brasseur de Bourbourg, who spent many years in Mexico and Yucatan, translated into French, the "POPUL-VUH," the sacred book of the Quiches of Tabasco, and left us a grammar and a copious vocabulary of the Quichè language, failed in his efforts to trace, to his cradle-land, the American Indian. In his able Essay: "Sources de l'histoire primitive du Mexique," he supports the theory of a lost continent. Diego de Landa, who was Bishop of Merida, Yucatan, 1573, wrote the "Relacion de las Cocas de Yucatan," enclosing in it a complete nomenclature of the characters of the Maya calendar, and the signs of the secret writings on some of the Maya monuments, giving us only the myths and the traditions of the aged men of the peninsula, but could furnish nothing definite as to the origin of the Indians of Central America or Chiapas.

Brasseur de Bourbourg, 1854, went carefully over the pages of the Dresden, the Mexican, and all the Codexes given by Lord Kingsborough in his elaborate and costly publication, comparing them with ancient documents he had found in Mexico, yet he discovered nothing bearing upon the origin of the Indian. But, waiving all speculation and theory, we are satisfied that Yucatan, Tabasco, and Central America are destined to return the best results to the investigations of the Archæologist and of the student of ancient American history. Admitting that Mexico and parts of South America had at one time a civilization equal to that of Central America, still, Yucatan, Guatemala, and Honduras have preserved the most complete memorials of the remote past, and their monuments of the past are more accessible to examination.

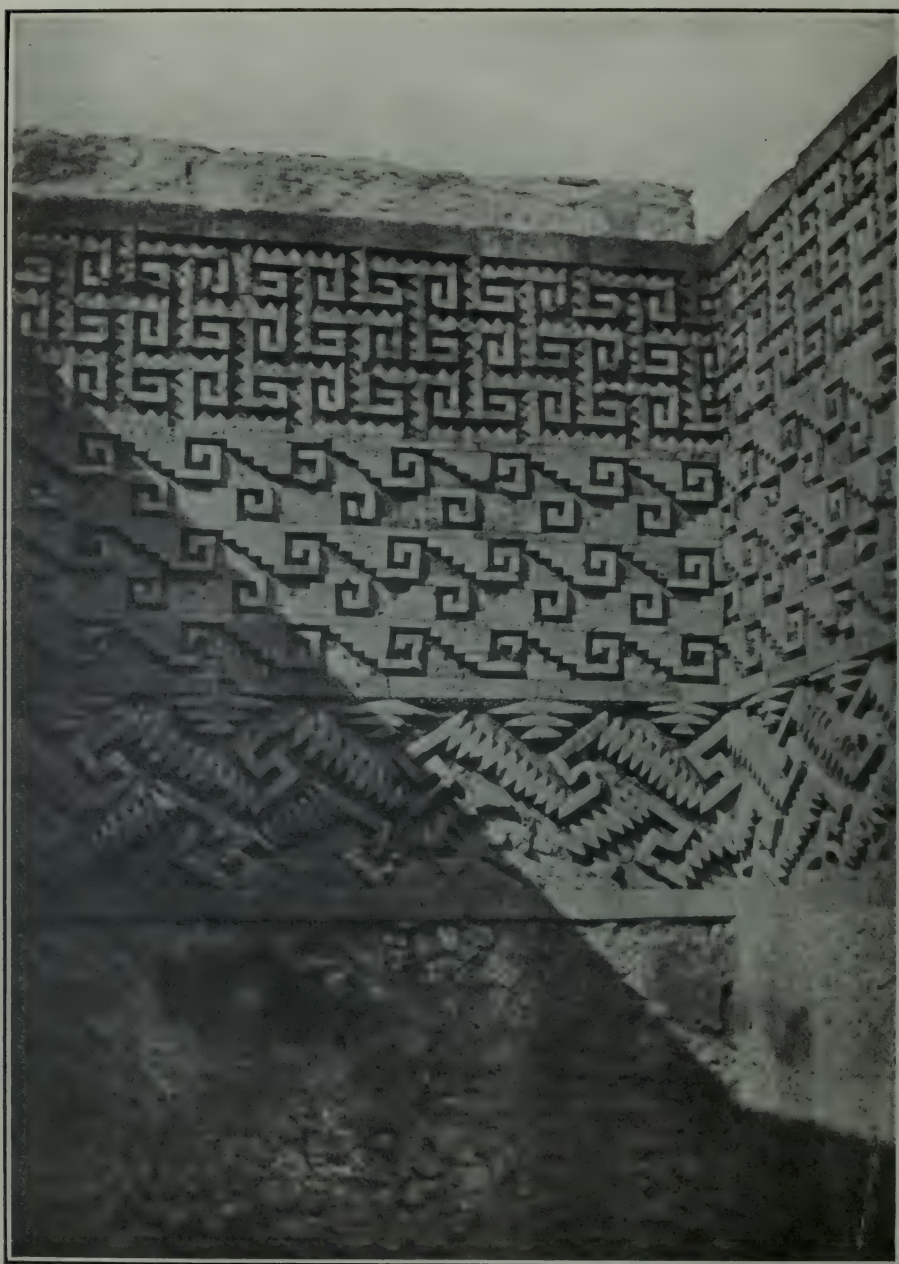
Before entering upon the study of the ancient civilization of Central America, let us hurriedly review the theories put forward on behalf of the existence of original man on our continent. Some writers regard the Indians as autochtons, a separate race created in America and for America; others ascribe their origin to a remnant of a pre-Noachic race of men, who escaped the diluvian cataclysm, and are now the oldest people of the human race. Plausible arguments and ingenious sophistries have been made and advanced on behalf of a Chinese, Welsh and Japanese immigration. Again we are confronted with innumerable volumes tracing the origin of the Indian to Jews, Canaanites, Phœnicians, Greeks, Carthaginians and Scythians. Others are of the opinion that America received its first inhabitants from the islands which lie between the extremities of Asia and America, that is to say, from Yezo, Gama's Land, and other lands, including a cluster of isles, possibly the Aleutian Islands. Then there is the Behring Strait, across which in very remote times, an Asiatic tribe is supposed to have sailed and populated America, and the "Lamanite Myth" of the "Book of Morman" recording the sailing of Nephi the prophet with his sons and daughters from the shores of the Persian Gulf to the Coast of South America—600 years before the Christian Era. All these suppositions are now relegated to oblivion, and their ghosts will not presumably walk again. Scott Eliott, in his book: "The Story of Atlantis," returns to the theory of a lost continent, and like Ignatius Donnelly in his "Lost Atlantis," supports his theory with very plausible, if not convincing arguments. There has been much dispute among learned men over the contention. According to one group of writers, the tradition of a submerged continent is pure fiction,

founded upon a fragmentary passage in the writings of Plutarch. Another group hold the tradition to be historically true, but say that the existence of the continent is incapable of absolute proof. The great German, Schlieman, is not afraid to imperil his reputation by contending for the actuality of the lost land. He writes: "I have arrived at the conclusion that Atlantis was not only between America, the west coast of Africa and of Europe, but that it was the cradle of civilization." Let us now glance at the civilization of prehistoric America, which induced Schlieman to express himself so unreservedly.

PREHISTORIC CIVILIZATION OF AMERICA.

In the ruins of the pre-Columbian cities of Yucatan and Central America, we see the most elaborate forms of sculpture adorning the altars, idols and buildings,—the remains of a people skilled in architecture, sculpture and drawing, and beyond doubt, excelling in arts that have perished. These sculptured Monoliths, altars, and statues, are not rude and archaic. In many of the halls yet standing, are arabesques fashioned in Mosaics and in grecques, and delicate tracery, not unworthy of a place in modern decorative art. The pillars and stone tablets, which carry hieroglyphics, are remarkably well executed. These hieroglyphics, or secret writings, were executed in characters known only to the priests and learned men of the race. We have not as yet been able to decipher them, so that the characters on the monuments of Copan, Palenque and Mayapan furnish us no data or information. The Maya system of symbolic writing appears to be a species of mnemonics. The hierographs on the Palenque tablets, now in the National Museum, Mexico City, are in perpendicular rows, and for aught we know the characters may be alphabetic and a written language. On these tablets we perceive a highly artificial system of writing, and to interpret it, the Aztec or Mexican picture-writing affords us no help.

The architecture and system of writing of these prehistoric peoples are different from those of any other known race, ancient or modern. They are of a new order, and are entirely and absolutely anomalous. They stand alone. The cultivation and refinement, such as it was, was not derived from the old world. Without models or masters from abroad, their architecture originated among themselves. They were a distinct people, having an existence independent of Asia, Europe, or Africa, apparently indigenous like the animals, plants and fruits of the soil. No analogies of art connect the ancient civilization of America with that of any known people. In their art they copied nature, and at Uxmal, in Yucatan, and Copan, in Honduras, we gaze upon buildings not unworthy to stand side by side with the best examples of ancient Egypt and Assyria. These primitive Americans were skilled in medicine and surgery. The "*Notes sur la medecine et la Botanique des Anciens Mexicains*," published in book form lately by the Vatican Polyglot Press, contains many items of information that must surprise those who think that only in recent times have we made valuable discoveries in therapeutics, and that all serious investigation in medicine, or whatever has been done in surgery, has been accomplished by European methods and by the men of Europe. Among the Mayas of Yucatan and the people who antedated the Toltees in Mexico, doctors were constituted a distinct and separate body of men. They formed a class by themselves, and the sons inherited the profession of the fathers. They made use of a multitude of drugs, and were familiar with diuretics, emetics, dietetics, febrifuges, emollients and vermifuges. They had many medicaments for all forms



INNER WALL OF TEMPLE.
(Mitla.)

of indisposition. They administered their medicine in many different ways: as decoctions, infusions, oils, ointments and plasters. Certain gums and resins they applied as electuaries. They recommended vapor-baths, and varied the treatment to suit the disease or the individual patient. The historian d'Anghiera states that in his own time, 1524, when European physicians in Mexico failed to cure their Spanish patients, the native doctors were sometimes sent for, and often effected a cure. Even as late as the days of the Conquest, when Maya and Aztec civilization had greatly declined, Cortes and his men were successfully treated by native doctors for illness and wounds. Cortes was so convinced of their skill, that he wrote to the Spanish Court asking that no physician of Spain be allowed to come to the colony. These native physicians anticipated modern advances for they made use of the seeds of certain plants for anasthesia and a distilled spirit for lessening the painfulness of operation. Last August, Professor Marshall Seville of Columbia University, New York City, returned from two months' excavations in Esmeraldas, Ecuador. He brought back with him skulls of South American men, who lived five hundred years before the discovery of America. The teeth in the jaws were filled with an alloy, and crowned with metallic caps. In all cases, he assures us, the workmanship is almost the equal of the modern dentist's art.

Sahagun, who studied their system of medicine very carefully, hints even of antiseptics. It was not alone in the use of drugs, however, that these doctors were skilled. When the Spaniards landed at Vera Cruz, in 1519, native botany was in advance of that of the old world. Several centuries later, the genius of Linnaeus enabled him to substitute for long descriptions of plants, a concise designation,—a generic name and a specific classification. But many centuries before the time of the great botanist, these ancient scientists had something resembling it, and possessed a botanical nomenclature of their own. Their classification was superior to that of Europe, before the birth of Linnaeus.

They had traced the influence of temperature and elevation upon plants and shrubs, and to some extent had systematized their knowledge. Though their botanical knowledge, compared with our own, was imperfect, we, nevertheless, have abundant evidence that they advanced far on the road to mastering the science of botany.

The Department of American Antiquities in the National Museum, Mexico City, is the most notable in the world, and is a veritable treasure-house of pre-Columbian relics and prehistoric "finds." In one room of the department are exhibited examples of famous Aztec picture-writings and Aztec maps and drawings of Tenochtitlan, now the City of Mexico. Here also are arms, jewels, glazed pottery and cloth made from the fibres of Heneguen, agave and the Maguey plant. Beautiful specimens of feather cloth woven from extremely delicate tissues of cotton, combined with feather and rabbit's fur, polished crystals, obsidian or volcanic glass manufactured into delicate objects of ornamental or economic value; figures of gold and silver, exquisitely wrought, and filagree ornaments of beautiful design, fill many cases in the Museum.

Anthropologists, such as d'Orbigny, de Bourbourg, and Heinrich Schlieman, are of the opinion that the region now known as Yucatan, Chiapas and Tabasco, was the cradle-land of primitive American civilization. From this land went out, in the very remote past, colonies into South and Central America, carrying with them the arts of civilized men. From here also, detached bodies went into Mexico and the North lands, where they built Mitla and other cities, the wonderful ruins

of which excite our astonishment and admiration. In these lands we find the tidal remains of an ancient race, which welled up from its primal springs in Yucatan and thence overflowed, multiplied and rolled on over the entire continent.

As the overflowing population rolled far away from its origin and its source, it lost the best part of its civilization. It lost its social strength, its historic memories, arts, tradition, crafts, and, in some instances, almost the very means and methods of subsistence.

In time, the womb of primitive civilization itself became gangrened, and when Cortes entered Mexico and Grijalva landed in Yucatan, they found the Aztec and Maya civilization decaying, disintegrating and decomposing. Some of the sculptured statues are of heroic dimensions. The curiously designed figures, the unfamiliar carvings on the altars and the panel work on the inner walls of Palenque, or Mitla are not surpassed by the temple specimens of Egypt and Assyria on exhibition in Paris and London.

Mournfully beautiful are the ruins of the prehistoric City of Copan, surrounded by a forest painful in the intensity and duration of its silence. It is a phantom in the wilderness, and when we demand of it to tell us how many centuries have passed away since the quarry was opened for these stones; how long since the builders began the city; how long was the city inhabited, and when was the city deserted, there comes no answer to our questionings. If, as it is now conceded by students of Central American history, the Quiches preceded the Mayas, and another race, antedating the Mayas, built the cities whose ruins now exist all over Central America, Yucatan and Mexico, what assurance have we that many civilized communities did not successively appear, run their course and perish in the veiled ages of prehistoric times. And by prehistoric times, I mean the ages between the creation of man and the beginning of authentic history. Under the limitations of our information and knowledge we are free to assume that the Quiches, Mayas, Yucatecas and the Indians now in Central America and Yucatan were and are the descendants of the civilized people who built the cities now abandoned. In order to account for the magnitude and splendor of the temples and public buildings of these cities a centralized form of government must have existed. These immense buildings could have been erected only by the expenditure of great labor—probably slave labor—and under a highly organized system of superintendence. Possibly the government was an imperial autoeracy or it may have been like that of Greece, which was, in religion and language, one nation, though politically a confederacy of sovereign states.

Who may deny that the savage or barbarian tribes who roamed the plains or peopled the forests of North America in the memory of men yet living, were not scattered fragments from the wreck of this civilization that in remote ages was lost in lurid storms of war, or disappeared under adverse conditions, which then, as in our own times, made and make for the decay of national unity, national virtue and character.

Defining in particular the social and the family state and condition of American Indians with reference to the knowledge we have acquired of them, we note that the same fortunes have followed the migrations of the dispersed and scattered race.

When human beings become destitute and desperate conditions of life make them so, barbarism and savagery will, in time, overtake them. When driven by the fortunes of war, or under the dire pressure of famine, from its own land, the flying remnant gradually separated from the civilization it carried from its home,



TEMPLE FIGURE.
(Palenque, Chiapas.)

it lost its culture, just as we would lose it now with all our refinement, if we were forced to live their lives, and were subject to the same conditions and hardships.

And in the forests to which the wanderers fled for shelter and safety, we can well imagine desperate conditions of existence, and therefore impossible conditions of civilization.

But from what people or from what land did Yucatan inherit its civilization? The men who colonized the peninsula, who built Xumal, Mayapan and Palenque, were, in the material order, civilized. They could not have risen from savagery, for there is no record in the annals of our race of any savage tribe of men advancing, unassisted by civilized man, one single step on the road to civilization. This is history. We must then assume that the men who colonized Yucatan were civilized. Let me, by way of parenthesis, mention that the chronology of the Bible, the age of man upon earth or the universality of the Noachic deluge, have not been authoritatively settled by the Christian Church.* We must also and permissibly take it for granted that these civilized inhabitants of Yucatan lived before the smelting of iron ore was discovered, for if these first inhabitants came from Europe, Asia or Northern Africa, they could not have forgotten the art of smelting or the utilization of iron. The axe, saw, plough, shipbolt, spear-head, and chisel were, according to Herodotus, known to all the civilized races of antiquity. The civilization of Egypt goes back to the deluge. The use of iron was known in the time of Tubal-Cain, son of Lamech, who antedated Noah. It was known long before the building of Solomon's temple, before the time of Hesiod and Homer. Iron reaches back as far as history. Now notice this: No tempered copper or implement of iron was ever found amid the remains of ancient America, or indeed indications that it was ever known or even heard of.† It is true there was no iron ore in Yucatan, but these civilized people, if they had known the use of iron, would have sent out prospectors, even to Durango, where they would have found a mountain of iron. Moreover, huge arcolites, and holosiderata were and are found in many places on the surface from Cholula and Zacatecas to Vera Cruz and Chiapas. If this continent were at any time peopled by a civilized race from the old world, it must have been long before mankind was acquainted with the properties of iron. Nor could they have lost the art of smelting if they had descended into barbarism and rose again, for among the savages of Equatorial Africa, the smelting of iron remained with them in their debasement. It is also a singular fact, that although Cortes, Bernal Diaz, and the Spanish writers of the early sixteenth century are eloquent in their admiration of the material and

* Some of my readers may feel disposed to challenge this statement. If so, I may remind them that at the meeting of the "Congregation of the Index," called to examine the dissertation of Vossius on the "Age of the World, the learned Mabillon was invited to give his opinion on the contention of Vossius that the "deluge was not universal either in its application or in its effects." Mabillon replied that the theory of Vossius could be accepted or at least tolerated:—"Principio hæc opinio nullatenus continet errorem capitalem neque contra fides, neque contra bonos mores." Such was the opinion of Mabillon—a doctor of theology. The Congregation, which met in Rome in 1686, consisted of nine cardinals and was attended by many bishops and distinguished members of the religious orders. The thesis of Vossius was critically examined and not condemned. The details of the examination are given in the posthumous writings of the distinguished Benedictine, Don Mabillon (Paris, 1724, p. 59, etc.).

† "Que en Yucatan ay muchos edificios de gran hermosura que es la cosa mas senelada que se ha descubierto en las Indias, todas de canteria muy bien labrada sin aver ningun genero da metal en ella con que se pudiesa labrar.—There are in Yucatan many buildings of great beauty, the greatest wonders we have yet seen in the Indies. These buildings are all of stone, which are cut into beautiful shapes, something surprising, since the builders had no metal tools to help them in their work." (Relacion de Yucatan, Landa, 1571.)

social civilization of the Aztecs, they make no mention of domesticated animals. Such domesticated animals as the cow, dog, horse, goat, sheep, hen, and cat, were introduced by the Spaniards and still retain their Spanish names in the languages of the Indians of Mexico. In the Aztec codexes, or in the traditions of any American race, there is no mention or memory of a domesticated animal. Nor can we, by affinity of language with any spoken or written tongue of the other continents of the world, trace any relationship between these Indians and other races of men.

Nothing is so indelible as speech. Sounds that in unknown ages of antiquity were spoken by the races of the earth still live in their languages. Languages, like seeds, never entirely die. They stay with the soil, and when nations or tribal families disappear forever, mountains repeat and rivers murmur the voices of these races that have disappeared, been absorbed or were annihilated. All European, African and Asiatic languages have been traced back to their sources, but the Nahuatl and its cognate tongues stand alone, and throw no light on the origin of the people. Philologists like Gallatin, Duponseau, and Mueller, say it differs radically from all other known languages. No theories of derivation from languages of the old world sustain the test of critical examination or of grammatical construction. Comparison with the Sanskrit, the Hebrew, the Phœnician, Japanese, Chinese, Celtic or Scandinavian languages, establishes no affinity between them and any primitive American tongue. As the human voice articulates not more than twenty distinct sounds, whatever resemblances there may be found to exist between any other language and the Maya, or Nahuatl, is of no ethnic value.

While endeavouring to solve the problem of prehistoric man in America, we are confronted with another issue of great import: When America was discovered, strange and unfamiliar animals prowled through its forests and roamed over its plains. Fresh water fish abounded in lake and stream, and reptilian life was everywhere. These were here ages before the coming of man. Fossil remains of extinct animals and saurians of giant size and strength, such as the tyrannosaurus, the triceratops, the diplodocus, the iguanodon, and of huge mammalian monsters, have been recovered from petrified clay in Colorado, Utah and Wyoming.* So that if we refuse to admit the possibility of a lost continent, or a bridge joining the new to the old lands, we are confronted with the theory of a separate creation, which can neither be admitted nor is admissible. The possibility of a lost continent so ably contended for by Le Plongeon, Heinrich, Darwin, Donnelly, Schlieman and many eminent archaeologists, carried a plausibility that obtained for it a large and influential following.

But the theory when attacked from the side of science and cosmogony, could not then resist the strength of the logic and arguments of its enemies, and it disappeared. But it did not die. It is very much alive to-day, for since the battle between the opposing forces, fought sixty years ago, new discoveries have been made and new territory explored.

* There is a wonderful specimen of the diplodocus in the Carnegie Museum at Pittsburg. It was found in the lower cretaceous hard-pan, in 1900, in Wyoming, U.S. The skeleton, when uncovered by the members of the Carnegie expedition, measured eighty-three feet. The creature was herbivorous, and is supposed to have lived in the water and in the marsh lands. After it was mounted in Pittsburg, Mr. Carnegie presented reproductions of the monster to five of the leading Natural History Museums of Europe. The largest known find of these huge animals is the giantasaurus, dug up in German East Africa about a year ago. It measured one hundred and sixty feet in length.

The eminent traveller and antipodean explorer, Clement Wragge, who last summer returned from the Easter Island of Waihu, Pacific Ocean, 2,300 miles west of Chili, is persuaded that the rock carvings he discovered near the Bay of Islands and the Cyclopean Monuments found on Easter Island are of very ancient date. Discussing the origin of these relics he writes: "The people who built the wonderful statues and cut the marvellous inscriptions on Easter Island, had nothing to do with the Polynesians, but are allied to those dwelling in Central and South America long ages ago. In fact they are to be referred to an Atlantian race."

Dr. Paul Schlieman, a grandson of the Archæologist, Heinrich Schlieman, writing to the *London Budget* last May, tells us: "I am as satisfied as I am that I exist, that before the beginning of the Eocene age, perhaps in the Cretaceous Period, a great continent, inhabited by a civilized race, existed in the Atlantic Ocean. The American Indians are the descendants of this race."

When Mr. Schlieman's promised book appears, we may examine at leisure the grounds on which he builds this declaration.

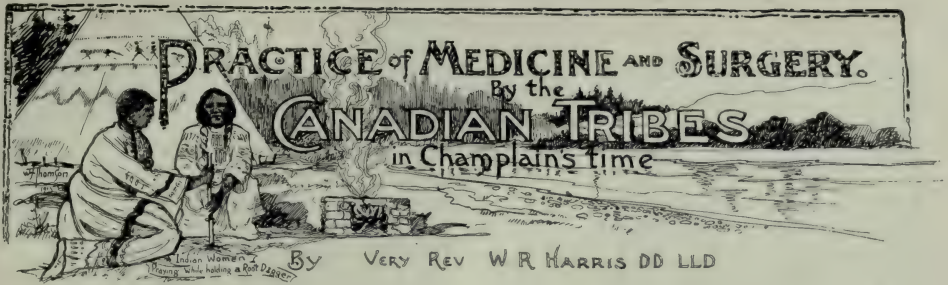
Herr C. Gagel, with the thoroughness of German scholarship, in a recent work he has given us on the same subject, endeavours to prove that a great continent did once exist in the Eastern half of the Atlantic Ocean, and that the volcanic islands of the Azores, the Canaries, and the Cape de Verdes, now represent all that is left of it above the waters. He is supported in his contention by M. Pitard, who lately found in the Canaries unquestionable cretaceous deposits.

It is possible that the supposed submersion of the Continent occurred many thousand years later than the Cretaceous Period, for in Central America, and on some of the islands of the Atlantic, there yet exist types of animals and samples of vegetation belonging to the Pliocene Age, the last division of the Tertiary Period, and near to the known appearance of man.

The problem of a submerged continent has by no means been solved. Recent discoveries afford the possibility of making others, and from the liberal encouragement given by the late Morris K. Jessup, in research work among the coast tribes and those of Northern Asia, some further light may be reflected on the origin of the American Indian. In any case, it is well to remember that when the elder Agassiz first propounded the theory of a glacial age, he encountered a storm of opposition and ridicule.

Geology and political geography are but of yesterday, and we cannot predict what advances and discoveries may be made before the opening of the next century.

Day by day we are now uncovering the carefully guarded secrets of the earth. Though wonderful disclosures have already rewarded enthusiastic research, and our expanse of human knowledge has been greatly broadened, yet the fringe has only been felt, and the great secrets of the earth and of the duration of human life on this continent are yet to be revealed. We are prepared to accept and to sift at all times new evidence, and to abandon any theory found to be untenable or out of harmony with later disclosures.



V

From the first appearance of disease among the children of Adam down to our own day, his descendants have searched and are still searching for remedies to cure the ills and diseases of their bodies.

Maupertius, when writing of the "Sorrows of Man", tells us, in one of his melancholy essays, that "however much men may differ in all other things they have all, *en tout temps, tous et chacun, cherchent un remède contre les maux de leur corps*—in all times, each one and all, have been looking for a cure for the diseases of their bodies." Pascal, in his "Thoughts", adds: "We must all suffer and be uneasy on this earth, for if we do not suffer and repine it will be all the worse for us."

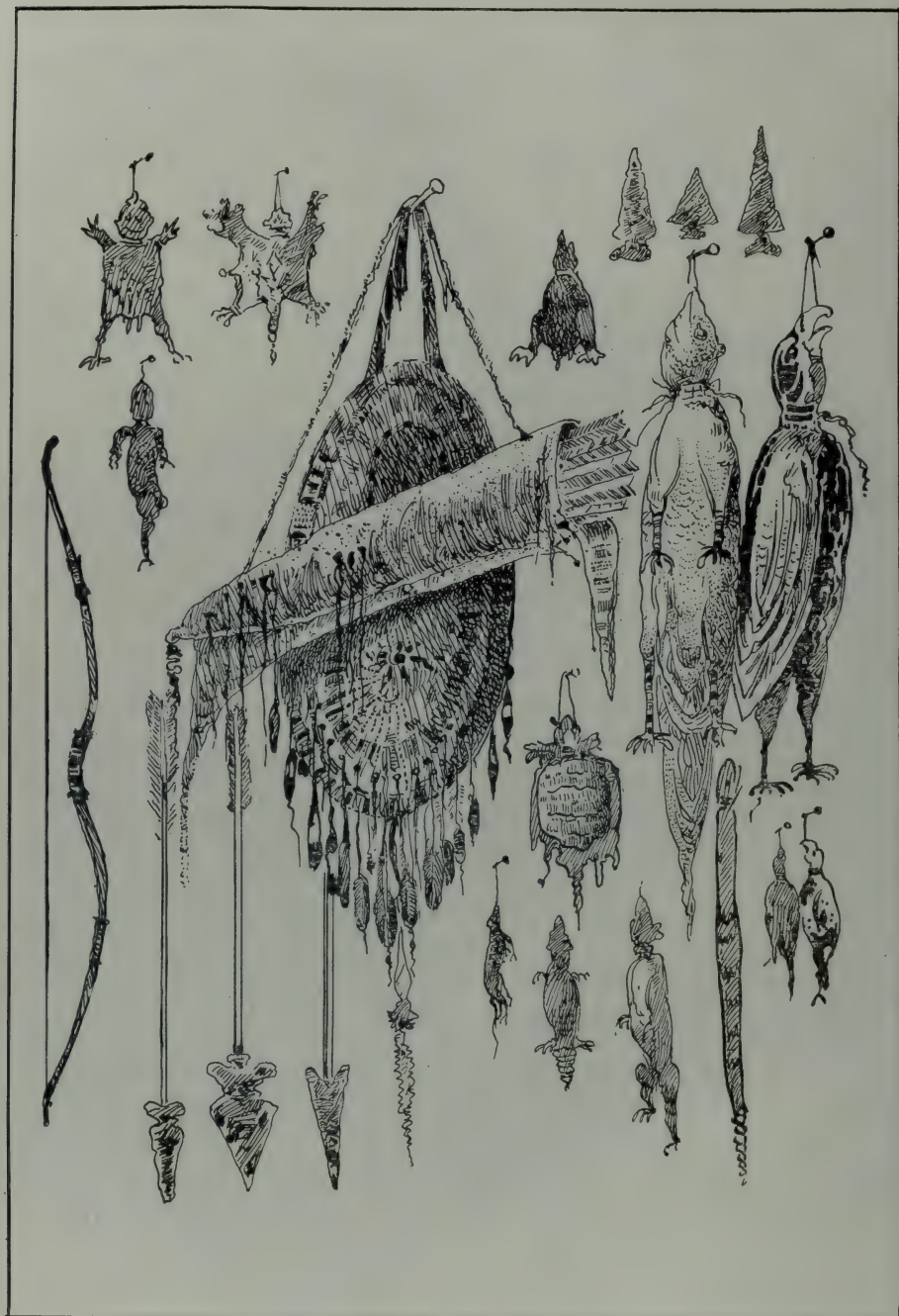
The Sacred Scriptures make no mention of medicine or of physicians before the time of Joseph, son of Jacob, who commanded physicians in Egypt to embalm and prepare for burial the body of the patriarch, his father. In the twenty-eighth chapter of Ecclesiasticus, written two hundred years before the Redemption, Jesus, son of Sirach, tells us that:—"The most High hath created medicines out of the earth, and a wise man will not abhor them."

The art or practice of medicine goes back to pre-historic times in Egypt. The Egyptians traced the discovery of healing plants to the gods Osiris and Isis. Hermes, one of their great doctors was, after his death, included among their divinities. Medical science, long before the days of Herodotus, must have reached to a commanding eminence, for, at the period to which the historian refers, in every city were many specialists who limited their practice to particular diseases, as do our own doctors to-day. "There are," he writes, "a great many who practise the healing art: some attend to disorders of the eyes, others to those of the head; some take care of the teeth, others are familiar with all diseases of the intestines; whilst many attend to the cure of maladies less prominent."*

Of the Babylonians, whose acquaintance he cultivated, he writes: "They have no professors of medicine. They expose their sick in some public square, with the hope of getting advice from someone who had been at one time afflicted with the same illness. No one passes the diseased person in silence, or without inquiry into the symptoms of his complaint."† Moses, "the friend of God," who had been instructed in all the learning of the Egyptians, probably was acquainted with the practice and secrets of their medicine. From his instructions to his people, the Israelites, concerning various diseases, such as leprosy, animals, clean and unclean, infirmities of women, etc., many exegists and commentators conclude he studied Egyptian medicine and therapeutics. It does not appear that physicians

* Herodotus, Euterpe, chap. 84.

† Clio, Chap. 197.



THE MEDICINE MAN'S OUTFIT.

were common among the Hebrews in early times, particularly for internal diseases, but for wounds, fractures, bruises and external injuries there were many surgeons who understood the setting of fractured limbs, the dressing and binding of wounds, and the application of healing salves. When Job was afflicted with an acute and terrible distemper, there is no mention or hint of physic or physicians. The low repute of the science of medicine, with the persuasion that diseases were the effects of God's anger, or *were caused by evil spirits*, was the reason that, in extraordinary maladies, the sufferers consulted soothsayers, diviners, magicians, enchanters, false gods or demons. When Ochozias, King of Israel, was seriously injured by a fall, he sent messengers to consult the false-god, Baal-zebul, at Akron, as to his chances of recovery.*

Jeremiah, the prophet (VIII, 8), denounced the enchantments practised by some of the chosen people for the bites of serpents and venomous reptiles. Similitude of practice does not always indicate imitation, for the American Indians, and the African negroes used, as did the Hebrews and the ancient Greeks and Romans, charms and incantations for the cure of diseases and wounds. The same exorcisms practised by some of the tribes of America were identical with those resorted to by Autolycus to heal the wounds of Ulysses, as recorded in the nineteenth book of the Odyssey. Adanson, in his "Voyage au Senegal," tells us that nothing but an invincible repugnance prevented him having recourse to the charm of his negro servants when he was suffering from great heat. "My negroes," he writes, "who were much incommoded by the heat of the sun and the sand, rubbed their foreheads with living toads, which they found among the bushes. This also is their custom when they are troubled with a cough, and they find great relief from the application. They say the spirits of the toads are friends of theirs. I suffered as much from the heat as they, and would willingly have followed their example, but an almost invincible repugnance prevented me from doing so."†

Superstition, which is the offspring of ignorance, dwells with civilized man and is found among all classes, but in a less accentuated and dangerous form than among savages. The difference lies here: in a state of civilization, individuals, here and there, are superstitious, whereas savages are all given to gross superstition. The Golden Age of Augustus, an age of high Roman civilization, furnishes us with examples of superstition as gross as that of Macbeth's witches or of any Algonquin tribe. A bone snatched from the jaws of a fasting bitch and a feather from the wing of a night owl were necessary for the success of Canada's incantations. *Ossa ab ore rapta jejuna canis, plumamque nocturnæ strigis.*‡ And early

* IV. Kings, Chap. I.

† Prof. John J. Abel, in an article he contributed last May to "*Science*," tells us that the toad of South America secretes a chemical substance called adrenalin, which is used for stopping the flow of blood in ordinary operations. Another singular secretion of the toad's skin, bufagin, is recommended highly by doctors for its effects on the action of the heart. Bufagin and adrenalin when combined with a milky substance, exuded from the skin of a toad, form a deadly poison. An arrow tipped in this poison and shot into a tiger or deer will kill it immediately, acting at once on the heart and blood vessels. The skin of a toad is, and has been for centuries, a common remedy for dropsy in China and in other oriental countries. They also apply the toad's skin to stop bleeding. Now we learn for the first time, according to "*Science*," of the discovery of wonderful medicinal properties in the skin and secretions of the toad. So that the scientist of to-day, after close observation and study, admits that primitive man evolved from meditation and experience much valuable information touching the curative properties of plants and extracts, confirming the statement of Herbert Spencer that "the scientist does to-day accurately and intelligently what the men of early times did carelessly and incompletely."

‡ Horace, Epod., Lib. V.



Turtle Rattle (Schis-chi-kue).

in the eighteenth century, Waterton assures us, Parson Evans, the Welshman, was roughly handled by an enraged spirit solely because he had forgotten a fumigation in his witch-work.

A few centuries ago European cholera was believed to be hidden in volcanic mountains and to be released by eruptions. Many claimed to have escaped the pestilence by sleeping with their heads due south. In Russia during the terrible epidemic six years ago, the people would not trust the doctors, whom they actually accused of causing the disease, but drank a loathsome mixture of tar, rosin and petroleum as a preventative, and fired guns from their doors and windows to scare the demon of cholera away. Among all peoples and among all classes superstition and fear of the unknown and mysterious exist. We are not then surprised to read that the American Indian was dominated by an intense fear of disease and resorted, when natural remedies failed to effect a cure, to charms, incantations, invocation of spirits and the aid of the *autmoin* or necromancer for help in sickness and pain.

DISTINCTION BETWEEN SORCERER AND MEDICINE-MAN.

A sorcerer or Agotkon among all Indians was looked upon with detestation, he was regarded as an enemy of the tribe; by his spells and his okies or demon-spirits he brought calamities on families and misfortune and disease on individuals. When a man was suspected of sorcery he was often ruthlessly murdered. "Did you intend that blow for me?" asked Father Brebeuf of a Huron, who on a dark night, struck a man dead who was walking by the side of the priest. "No," replied the other, "you may pass on. This man was a miserable sorcerer, and I thought it was time for him to leave the country."

THE AUTMOIN OR MEDICINE-MAN.

A medicine-man among the Canadian tribes held an honourable position, for his office combined the duties of priest and physician. When as a physician he failed to cure his patient, he then assumed the character of a necromancer and invoked the assistance of his familiar or guardian spirit to help him cure the sick person. The Jesuit missionaries to the Hurons and Algonquins pilloried all Autmoins, Shamans and Medicine-men as cheats and impostors. While conceding that in healing ruptures and sores of the body by natural remedies the Autmoins were very skilful, the missionaries denounced their methods of attempting a cure of serious and internal diseases as puerile and absurd.

"To cure a sick person," writes Father Garnier, "they summon the *autmoin*, who, without acquainting himself with the disease of the patient, sings and shakes his tortoise rattle: (*Schis-chi-kue*). He now gazes into the water and sometimes into the fire to discover the nature of the disease. Having, as he declares, found it, he begins to use some simples to induce vomiting, and if the sick man cast up a lock of hair, a twig, or a tiny pebble, the *autmoin* declared this was the spell. Thus he often boasted of removing with a point of a knife from some part of the body something which he himself had concealed in his hand.

"Let us say something about the art of medicine in vogue in this country (*Huron*). Their science consists in ascertaining the cause of the ailment and applying the remedies. They deem the most common cause of illness to come from failure to give a feast after some successful fishing or hunting excursion; for then

the Sun, who takes pleasure in feasts, is angry with the one who has been delinquent in his duty, and makes him ill. Besides this general cause of sickness there are special ones, in the shape of certain little spirits, malevolent in their nature, who intrude themselves of their own accord, or are sent by some enemy, into the parts of the body that are most diseased. Thus when anyone has an aching head, or arm, or stomach, they say that a Manitou has entered this part of the body, and will not cease its torments until it has been drawn or driven out."

"The most common remedy, accordingly, is to summon the Juggler, who comes attended by some old men, with whom he holds a sort of consultation on the patient's ailment. After this he falls upon the diseased part, applies his mouth to it, and, by sucking, pretends to extract something from it, such as a little stone, or a bit of string, or something else which he had concealed in his mouth



The Medicine Man Applying Yellow Paint.

beforehand, and which he displays, saying: 'There is the Manitou; now thou art cured, and it only remains to give a feast.'

"The Devil, bent on tormenting those poor blinded creatures even in this world, has suggested to them another remedy, in which they place great confidence. It consists in grasping the patient under the arms and making him walk barefoot over the live embers in the cabin; or, if he is so ill that he cannot walk, he is carried by four or five persons and made to pass slowly over all the fires, a treatment which often results in this: that the greater suffering thereby produced cures, or induces unconsciousness of the lesser pain which they strive to cure.

"After all, the commonest remedy, as it is the most profitable for the physician, is the holding of a feast to the Sun, which is done in the belief that this luminary, which takes pleasure in liberal actions, being appeased by a magnificent repast, will regard the patient with favor and restore him to health."—Jesuit Rel. Vol. 39, et. seq.

NATURAL REMEDIES AND MATERIA MEDICA OF THE TRIBES.

Primitive man, or the man of nature, was by his occupation and environment a healthy man and, unless killed by accident or in battle, the Indian generally lived to an advanced age.* Deformed children, or idiots were almost unknown among the tribes. Their women never perished in child-birth, and suffered very little in parturition. Four hours after the birth of her child the mother was ready for her ordinary duties. The men were hardened by exposure to all kinds of weather, and by hunting and fishing, which protected them against disease and gave them remarkable recuperative powers when attacked by any malady.

Their active life in the open air saved them from heart and kidney diseases, from appendicitis and many other maladies to which civilized man is and always will be a victim. Moreover, aboriginal man of Canada knew nothing of alcohol,



Shaman Exorcising an Oki.

of condiments, spices, or opiates. He was not a salt user. The Southern, Mexican and Central American tribes were able to distil alcohol from the maguey and from other plants, but the Canadian Indian had not the material from which he could manufacture intoxicating liquor, and, as a beneficent result, he was necessarily a sober man and protected from alcoholic disease. But the Canadian savage was not altogether immune to disease, to plagues and epidemics. John Josselyn, in his "Account of Two Voyages to New England," writing (1674) of the maladies to which the Indians of New England were subject, says: "In New England the Indians are afflicted with pestilent fever, plagues, consumption of lungs, falling

* Even as late as 1884 there were living on the Reservation, near Brantford, three men who were companions of the Mohawk, Joseph Brant (Thayendangea). One of these men, John Smoke Johnson, attained the age of 94. Jacob Warner was 93, and the other, John Tutela, was 92 when he died.



Indian Flute.



Stone Medicine Tube.

sickness, King's evil, and a disease in the back, with us empyema." Fevers and dysentery were also common complaints among the tribes, but until the entry of the white man upon their lands, smallpox, scurvy and venereal diseases were unknown.

His life as a hunter, canoeman and warrior was often a life of accidents, or wounds and broken limbs. In his sickness and under the pain of his wounds he or his friends sought the help of nature and of the skilful men of his tribe. Knowing nothing of science, having no literature to perpetuate the discoveries of his ancestors, primitive man acquired most of his knowledge in treating diseases and wounds from his own experience, from tradition, or from the experiences of his tribal companions. When his malady baffled his skill and failed to yield to ordinary remedies he quite naturally invoked the aid of familiar spirits, of devils and shamans. But to these he appealed only in dire straits. For his ordinary maladies and for reducible fractures he had his own remedies, taken from the woods around him. For example, he cured acidity of the stomach by eating grains of corn steeped in lye or by swallowing small doses of an absorbent earth which he found on the banks of rivers. In inflammations or inflammatory troubles he drew blood, though he knew nothing of chemistry or the principles of physiology.

The remedies of the Canadian Indians were entirely the results of their experiences. When an unknown disease made its appearance among them they experimented with drugs, emetics, laxatives and emollients, and when these failed they built their hopes on charms, on supernal powers, and on the incantations of the shamans. When their ordinary medicine failed to effect a cure in any disease they called in the autmoin or shaman, who, failing to cure by his skill and experience, invoked his Oki, or familiar spirit, to help him to drive out of the body of the sick man the little devil that tormented him.

The Indians knew nothing of the circulation of the blood, but they did know that blood and respiration were necessary to life. They had their own names for all the important organs of the human body, knew where these organs were placed, and, in a sense, their functions.

They believed the brain gave birth to thought and directed their daily acts. They were, by necessity, great hunters, and were familiar with the situation of the vital organs in man and animal. When hard on the trail of a deer or when pursued by his enemy over poorly watered lands, the Indian suffered severely from blood-spitting. When this happened, to stop the hemorrhage, he chewed and swallowed, while on the run, the Hon-kos-kao-ga-sha, an astringent root which he carried with him when leaving his tent. They, at times, suffered from severe hemorrhages, the result of wounds, accidents or other causes. To stop the bleeding they bandaged the parts affected with a cataplasm of scraping obtained from the skins of animals mixed with swamp moss.

In tumefactions, fevers, and inflammations, they had recourse to blood-letting and used sharp flint knives or pointed bones, and, if drawing blood from the arm or leg, applied a ligature in the same manner as do our own surgeons. After the operation they bound over the wound a piece of soft skin of a fawn or minx. Into wounds where pus had collected they squirted water with the mouth and sucked out the poison deposited by the bite of a rattlesnake or any poisonous reptile. They then made an incision with a sharp flint and cauterized the wound with a very hot stone. They were not often troubled with old sores, the fungus parts of which they treated by cautery or by the application of fire, contending that a burn would get well of itself, while old sores were exceedingly difficult to

cure. They were acquainted with the benefits of muscular relaxation in dislocations of the limbs and knew how to replace a luxated joint. When suffering from frost bites they applied to the parts affected a resinous plaster made from the sap-pine. They knew how to make and apply splints to a broken arm or leg and to inject astringents into wounds, and how to keep up suppuration. As they had no



A Medicine Man Curing a Patient.

favourite theories of medical practice to defend, and no schools of medicine, they depended largely on experience in the application of their remedies, and, as a last resort, on the power of the shaman and his familiar *oki*. With the diseases of his body, for which the sick man could account, he had recourse to restoratives and natural remedies, such as fasting, dieting, medicinal plants and copious sweating, but if he became satisfied that he was the victim of some exceptional



Head Chief of Petun Shamans.

malady, the origin of which he was unable to explain, he sent for the shaman to learn the cause of his sickness and to avert its evil effects.

THE SHAMAN AS A MEDICINE-MAN.

The universal opinion among the Canadian tribes, from ocean to ocean, that all diseases or ailments which failed to yield to ordinary treatment were caused by an imp or imps which had entered and settled in some part or parts of the sick man or woman induced them to turn to those who claimed to have power to expel these imps. This power the shaman, autmoin or medicine-man of the tribe was supposed to possess. We are not now concerned to know by what means—fastings, isolations, macerations and communings with spirits—he obtained his influence. We know he professed, like Owen Glendower, to have power over spirits, and his tribesmen admitted his claim. The shaman was no fool. It is true he was part quack, part doctor and impostor, and was generally an expert juggler and sleight-of-hand man. Among the Hurons, as among all the tribes of North America, the shaman was feared and also respected, and possessed much authority and influence with his tribe.

In his capacity as a physician he started by questioning the sick man as to his feelings; when he experienced pain and how long since he began to feel unwell. He then examined his tongue, massaged his body, and prescribed remedies or medicine to be taken at stated times. Before leaving he called in some friend or relative of the patient, generally an elderly woman, instructing her how and when to administer the medicine, and, above all, to allow no one to intrude on the sick man. Calling next day and finding his patient was not improving, he ceased to practise his profession as a doctor and became an exorcist, contending that the sick man was possessed by an evil spirit, *oki* or imp, which must be expelled before a cure could result.

THE SHAMAN AS AN EXPERT JUGGLER.

The shaman now put on a ceremonial dress and began at once his incantations, exorcisms and necromancies. He sang, shouted and shrieked to frighten the *oki*: beat the drum and rattled the tortoise-shell—the *shis-chi-kue*. He paraded through the wigwam and around the bed of the sick man, then pausing he bent over the body of the patient, placed his mouth over the part affected and drew out a feather, a piece of wood, or some hair and, holding it aloft, declared that was the thing in which the *oki* dwelt and which he brought with him when he entered the body of the sick man. Here is what we read in vol. IX., page 81, in the "Relations":

"Scarcely had the father gone out when these impostors began to cry, howl, beat their drums, and make their usual uproar. When this is done they approach the poor sick boy, make those who are too near him retire, and then exclaim to him, 'Take courage, my child; we have found the cause of thy sickness; only close thy eyes, and let us do our work.' The poor patient closes the lids as tightly as he can, while the jugglers, examining his body, draw from their bag a great butcher knife, and pretend to be opening his side and probing a wound: then they produce a little knife covered with blood which they show to those present. exclaiming, 'Behold the cause of the trouble; courage! the Manitou has placed this in thy body: behold thee relieved, dost thou not feel well?' 'Yes,' replied the patient, 'I am much better.' All those present were surprised, looking at

this knife with wonder. Thereupon my charlatans, to cover up their game and their deceit, make a plaster of ashes mixed with water and apply it to the side they pretend to have opened, expressly forbidding the mother and child to touch this balm, which must cure him of all disease if its value is recognized."

On another page we read: "This nation, like the others, has its Medicine-men; these are generally old men, who, without study or any science, undertake to cure all complaints. They do not attempt this by simples, or by drugs; all their art consists in different juggleries; that is to say, they dance and sing night and day about the sick man, and smoke without ceasing, swallowing the smoke of the tobacco. These jugglers eat scarcely anything during all the time that they are engaged in the cure of the sick, but their chants and their dances are accompanied by contortions so violent that, although they are entirely naked and should naturally suffer from cold, yet they are always foaming at the mouth. They have a little basket in which they keep what they call their spirits, that is to say, small roots of different kinds, heads of owls, small parcels of the hair of fallow deer, some teeth of animals, some small stones or pebbles and other similar trifles."*

If his exhortations, emetics, poundings, his exorcisms, incantations and pretended extraction of some malign article from the body of the sick man failed to bring relief, the shaman said there was in his body another oki or many of them stronger than his, the shaman's oki.

The shaman now stood erect and predicted the day on which the patient would die. If on the day foretold the man showed no signs of dying, his friends poured pots of cold water upon him to help him leave this world and join his tribesmen in the happy hunting-grounds in the west. They rattled the shis-chi-kue near his ears, shook over him his medicine or amulets, among which was the bear's paw that hung near his head, shouted to him: "It is time to go, go now; your father, mother, friends and their squaws wait for you in the Spirit land; they wonder what's keeping you, go and meet them; go!" From the hour the shaman predicted death the sick man took no food. Dressed in his best robe he began chanting his own death-song, received gratefully the pails of water thrown over him and becoming unconscious was, in some instances, buried before he was dead.

If the dying man was a person of some importance, a chief or the head of a large family, he summoned to his side his wife or wives, his sons and daughters, and delivered to them his final message. After he had ended his address, his particular friends were invited in and all present began, at once, the Tabigie; that is, the funeral or death feast, when all the edibles in the cabin were eaten. Animals, such as rabbits, porcupines and dogs were then strangled to death so that their souls would proclaim in advance to those in the other world the immediate coming of the dying warrior. The bodies of the animals were then chopped up, boiled and eaten. When the feast was over the neighbours retired and the wives began to weep and howl, tearing out their hair, and, with flint knives, cutting gashes on their limbs and bodies.

* Savages, the world over, making allowance for local variations, are influenced by the same agencies. A missionary who lived among the negroes of the Lower Congo informs us in a letter which appeared in the *Illustrated Catholic Missions*, 1886, that "Belief in charms is general and practised by all the pagan negroes. Certain kinds of nuts or seeds, shells, peculiar shaped twigs or trees, little bags of cocks' spurs, snakes' heads, little bags containing charm mixtures, are all used for healing the sick. A *ndochi* or sorcerer is detested and often murdered."

NATURAL REMEDIES.

The earliest mention of the application of Indian remedies to severe illness occurs in the "Bref Récit" of Jacques Cartier, the discoverer of Canada. The *Récit* gives a detailed report of a mysterious epidemic which carried off many of Cartier's men when he wintered near Quebec in 1535. Perceiving that his own surgeon could do nothing, Cartier asked help from the Indian chief, Donnacona. The chief gave to Cartier branches of a tree (supposed to be the white spruce or Canadian *Epinette blanche*), told him to boil the leaves and bark and to give to the sufferers frequent and copious drinks of the decoction and to poultice the stomachs of the sick with the residue of the wet leaves and bark. "After five or six days," writes Cartier, "the medicine produced an effect that all the doctors of Louvain and Montpellier could not have brought about in a year if they had all the drug-shops of Alexandria at their disposal."

The Indians understood the importance of drawing blood in fevers, local pains and inflammations, employing in the operation flint knives, or pointed bones. They began the cure of most of their acute maladies by bleeding, purging and sweating. In their treatment of fevers they first administered a strong emetic and then gave the patient liberal doses of sweating teas and warm drinks. When the fever was broken they administered bitters and other tonic medicines to prevent its recurrence.

Consumption among the northern Ontario tribes was a lingering and common disease. They invariably experimented with warm drinks of Indian-physics, large draughts of hot water and herbal teas. They also had recourse to the steam-bath to induce sweating, and abstained from flesh food, subsisting principally on a gruel prepared from parched cornmeal. For ordinary colds and in all high fevers they believed that a moderate fast and abstinence from the flesh of animals was best for the patient, saying that "To give food to a fever is to keep it alive." The cough-root or Indian balsam was included among their most valuable remedies for colds and incipient consumption and swellings. They stripped from the tree the outer bark, using only the inner. The juice was deemed by them to be helpful in bowel complaints. The inner bark, when chewed and swallowed, helped to support life when periods of famine visited a tribe.

When a child was attacked by whooping-cough they gave liberal doses of an infusion of spikenard, which was also administered for asthma and pains in the breast. The roots and leaves of the sumach were administered as a decoction for many complaints, but especially for dropsy, which, before European traders visited them, was an uncommon disease among the Indians. Our Algonquin and Huron Indians were not often or grievously afflicted with swellings, tumors, or boils, which were generally allowed to reach a crisis and disappeared without the aid of applications of any kind.

In pleurisy the patient was freely bled and sweated, and bags of hot ashes applied to his body. From the hardships of their lives when on the hunt, and exposures on the water in all kinds of weather, the Indians suffered more perhaps from rheumatism and consumption than from all other diseases known to civilized man. Rheumatism, from its pain and frequent visitations, drove the Indians to seek amelioration and help in many remedies, but chiefly in hot unctions of bear's oil, warm infusions, rubbing with skins taken from beavers just trapped, and in steam-sweats.

THE VAPOR-SWEAT.

Among all the Indian tribes of America sweating and fasting were believed to be most efficacious remedies and to be endowed with great curative properties.



Indian Vapor-Bath.

They resorted to many methods to produce a sweat, such as heavy blanketing, warm infusions, etc., but the common and most highly prized was the steam-sweat. To produce a steam-sweat they built around eight or ten collected stones as large

as ordinary pails a *small* room of skins or bark and as near air-tight as they could make it. This tent was, when possible, thrown up near a lake or river, preferably on a sloping hillside. Before closing the entrance to the tent they sank an excavation in the ground, in which they built a strong fire of cedar, spruce or balsam, and into this fire they cast the stones. Meanwhile a friend of the patient brought in pots of water and retired, closing tightly the entrance after him. When the fire had heated the stones to a "white heat" the patient, entirely nude, slowly emptied the pots of water on the stones till the tent was filled with steam. Within this *inferno* the Indian sat and sweated while the steam retained its heat. Calling to his friend for his blanket, he now walks or is assisted to his house and goes to sleep after swallowing copious drafts of tea made from dittany or other herbs. When the steam-bath was taken for an ordinary cold, or as a luxury, the bather when leaving the hot-house often plunged into the lake or river, and suffered no ill-effects from the plunge.

Asthma, owing to their frequent colds, the severity of a northern climate and the hardships of their lives, was not an uncommon disease.* In the cure or relief of this annoying complaint the Indians were very successful. They began with the vapor-bath, then resorted to blistering, fomentations and sleeping draughts. At times the sufferer got relief by applying to the breast or the back small bags of wet ashes or by inhaling the vapor arising from hot water in which certain herbs had been steeped. They had great faith also in a small plant known to them as the Wesh-ke-hah, used freely for asthma, for an infusion of its roots and shoots, in doses of a half pint, at intervals of twenty minutes, gave almost instant relief. It produced a gentle moisture on the skin, easier respiration, and relief from all difficulty of breathing. In twenty or thirty minutes a profuse sweating followed, attended with an expectoration of phlegm and an entire relief from pain.

For ulcers and tumors the Hurons applied to the affected parts poultices made from the bark of the hazel-nut tree. From the roots of the sassafras the Indians made a cooling drink which they used when attacked by fevers or colds. When afflicted with snow, or smoke, blindness, they steeped the pith of the sassafras sprouts or roots in water and with it bathed their eyes.

The Seneca snake-root was considered a valuable remedy by the Hurons and cognate tribes. It was prepared and used sometimes as a powder, at other times as an infusion, and given warm to induce sweating or to help in the discharge of mucus from throat and lungs. It was given to children when suffering from difficulty of breathing, and drunk generously by consumptives. Its Indian name was Ag-ga-shu.

Slippery Elm (Hon-kos-kao-sha), when boiled and applied as a poultice or plaster, was prized as a valuable remedy for ulcers. Pipsisseway (Ne-was-char-la-go-ne) was held in great esteem by some Algonquin tribes as a sudorific and anodyne, especially in chest troubles, colds, etc. For the cure of dysentery, dropsy, and asthma, the Hurons drank a decoction of the milk-weed (Ne-pe-sha). It was also employed as an emetic.

Prickly Ash (Han-to-la) was one of the most valuable remedies known to the Algonquins for the cure of rheumatism. They freely chewed the inner bark, and the roots of the tree they boiled, and drank liberal draughts of the water during the day. The inner bark, steeped for hours in bear's oil, they applied as poultices and as embrocations. Combined with snake-root and the bark of the wild cherry tree the Chippewas and other Algonquin tribes made use of the Indian turnip for coughs and fevers. The turnip was called by them E-haw-sho-ga (bite

the mouth). In ivy and sumach poisoning they used the fire-weed. The poisoned parts were rubbed with leaves of the plant, bruised and crushed so that the sap moistened the skin freely.

In diseases of children the Angelica plant, boiled and strained, was frequently used. Anise (tut-te-see-hau) was eaten to expel gases from the stomach. For colds, asthma and pleurisy they drank bear's oil, and Seneca snake root steeped for hours in an extract of mild liquorice.

The Buck-eye nut (tar-ton-ga-on-ba) and its leaves, boiled, were taken as a remedy for diarrhœa. The inner bark of the black locust tree (e-hau-wah) they chewed and swallowed, which acted as an emetic. In cases of colic they chewed the rinds or hulls of the black walnut (he-ne-ska). For swellings and inflammation they bruised and applied the leaves of the black snake root, which in almost all cases gave immediate relief.

In fevers of a low type they gave the bark of the dogwood tree (shen-don-shu-gah) in combination with bitters of various kinds. In cases of debility when accompanied with stomach trouble, in palpitations of the heart and dropsy, they administered decoctions of gentian root (ton-ga-shin-ga) in combination with dogwood and wild cherry bark.

In bowel complaints the Indians administered an infusion of the dewberry roots (o-ga-she-ga). The dittany (Mas-tin-jay) was freely used by the Atti-wandarons or Neutrals, and highly esteemed by them as a sudorific in coughs, colds and fevers. Indian physic (sku-ten-na-ja), known to us as Bowman's root, was highly valued for its emetic and sudorific virtues and as a cure for low fevers and bowel complaints.

TOBACCO.

Probably the first mention of the use of tobacco by an Indian tribe is recorded in the "Bref Récit" of Jacques Cartier. "One of their herbs," he tells us, "they value very highly. The squaws gather it in great quantities for winter consumption. It is dried in the sun and carried in a small fur bag around the neck. They are constantly reducing it to powder and putting it into a bowl of stone or wood in which they place a live coal and draw in the smoke through a tube. We tried to imitate them and afterwards tasted the powder, but we found it as hot as pepper." When questioned by Cartier, the Indians said smoking was good for them and kept them warm.

Among all the tribes tobacco was supposed to possess many wonderful properties, helpful in diseases and for the cure of wounds. In hunger and thirst and great fatigue it was smoked or chewed freely and always, they claimed, with beneficial effect.

The Indians boiled it with the chips of swamp-oak and applied it as a discutient in abscesses and in local inflammations. The leaves were warmed, placed upon the parts affected, and moistened by an infusion from time to time. They also applied the dried leaves to old sores and ulcers, steeped the leaves in bear's oil and applied them as embrocations to swellings, eruptive and cutaneous diseases. It was frequently used in dropsy, and, as a vermifuge, was applied to the abdomens of children.

The Canadian tribes, as a body, understood the use of and the benefit derived from emetics, cathartics and the steam-bath. Fasting was practised by them as a cure or an alleviation in certain diseases, and, as a necessity, when peculiar favors were to be asked from their manitous or familiar spirits. However, in the



Indian Drum



Indian Knee Band.

application of their remedies and in the value attached to these remedies and agencies, there were differences of opinion among them and even among the healers of the same tribe, as among our own physicians. "Sorcery, prayers, songs, exhortations, suggestions, ceremonies and certain specifics and mechanical processes," writes Mr. A. Hrdlicka, of the U.S. National Museum, "are employed only by the medicine-men or medicine-women; other specific remedies are pro-



Rattles

prietary, generally among a few old men and women in the tribe; while many vegetable remedies and simple manipulations are of common knowledge." I may say that the medicinal properties of many of the herbs, roots and plants familiar to the Indians before the discovery of Canada, were known, for the first time, to our own sixteenth century doctors and for the first time also were then transmitted across the sea and now hold an honourable place in European pharmacopœas.

SURGERY.

When a warrior was severely wounded in a battle or on the hunt, his companions carried him off the field on sleds in winter and in summer by canoe or litter. These stretchers or litters were made by lashing together two poles with cross-pieces. If the warrior suffered great pain a bed of moss or of tender branches was made in the litter.

Wounds were always kept clean, and when necessary were sutured with threads from the inner bark of basswood, or a fibre from the long tendon of a deer's leg. The wash or lotion used for cleansing wounds was a mucilaginous extract of the slippery elm.

Arrow-heads or any foreign substance when deeply imbedded were extracted by a forceps made from split willow.

For fractures they made splints out of bark. The bark was padded with moss and so adjusted to the broken limb that there was no friction from ends of broken bones.

To burns they applied a poultice made of boiled spruce.

Amputations were never practised by the tribes. They never used extension or counter-extension, and yet deformity or shortening was rare.

REFERENCES.

- "Jesuit Relations" (Cleveland Edition), Vol. I, p. 22, 23, 167, 129, 261; Vol. II, p. 75, 77, 151; Vol. III, p. 117, 125; Vol. IV, p. 203; Vol. V, p. 235; Vol. VI, p. 187; Vol. VII, p. 127; Vol. VIII, p. 123, 261; Vol. X, p. 187, 197, 209; Vol. XII, p. 7; Vol. XIII, p. 131, 255; Vol. XIV, p. 51; Vol. XV, p. 69, 179; Vol. XVI, p. 55; Vol. XVIII, p. 131, 213; Vol. XIX, p. 83, 173; Vol. XXVII, p. 49; Vol. XXXI, p. 211; Vol. XXXIII, p. 199, 201, 203, 209, 219; Vol. XXIX, p. 21, 23, 25; Vol. XLII, p. 173; Vol. L, p. 291; Vol. LI, p. 37; Vol. LIII, p. 285, 287.
- "Publications of the Bureau of Ethnology" (Powell), Washington, 1891, 1887-8, 1896.
- "Memoirs of a Captivity Among the Indians of North America" (John D. Hunter), London, 1824.
- "Indian Tribes of the Upper Mississippi and the Great Lake Regions", Vol. II, p. 218 (E. H. Blair).
- "Carver's North American Travels", Chap. XIV, p. 389, et seq.
- "Medical Knowledge of the Indian", Vol. IV, p. 501 (Henry R. Schoolcraft).
- "Medicine; or, Some Account of the Remedies Used by the American Indians in the Cure of Diseases" (Dr. Zina Pitchs, Detroit, U.S.).
- "Hand Book of American Indians", Vols. I, II, Washington, 1907 (F. W. Hodge).
- "Bref Recit et Narration de la Navigation, etc.", 1535-36 (Jacques Cartier), Paris, 1863.
- "The Indian and the Indian Medicine Man", in the *Canadian Practitioner*, 1903, Dr. J. F. W. Ross, Toronto.
- "Oeuvres de Champlain", L'Abbe C. H. Laverdiere, Quebec, 1870.
- "Medical Inquiries and Observations", Benjamin Rush, Philadelphia, 1794.
- "Introduction to History of Medicine", F. H. Garrison, Philadelphia, 1913.
- "History of Medicine in United States", F. R. Packard, Philadelphia, 1901.
- "Nouveaux Voyages", Lahontan, Paris, 1703.
- "Travels and Adventures in Canada", Alexander Henry, N.Y., 1809.
- "Wanderings of an Artist Among the Indians of North America", Paul Kane, N.Y., 1843.
- "Memoire sur les Moeurs des Sauvages", Nicholas Perrot, Paris, 1864.
- "Account of Two Voyages to New England" (John Josselyn), Harvard Library.

Botanical Names and Properties of Plants mentioned in Article on "The Practice of Medicine and Surgery among the Canadian Indians." By Rev. B. Alfred, F.S.C., professor of Botany, De La Salle Institute, Toronto.

"Angelica," a plant of the parsley family so named from its cordial and medicinal properties. There are two common species on the dry, sandy lands throughout the United States. The "villosa" seems to be the most widely distributed and was, probably, the species so popular among the Indians. The species "atropurpurea" (The Great Angelica), so common in our Canadian marshes, does not seem, according to Hunter, to have been greatly prized by the western tribes, although all the species are known to be tonics, sudorifics and diuretics.

"Anise", a plant of the parsley family known scientifically as the "*Pimpinella saxifraga*." It is indigenous to Egypt and Europe, but it has been naturalized in Canada and the United States. It grows from a perennial rootstock. The seeds are used for the stomach and to expel gas from the intestinal canal. Many oil glands are contained in the pistil and from them a volatile oil is extracted. Its habitats are roadsides or waste places.

"Buck-Eye", probably the fetid or Ohio Buck-Eye (*Aesculus Glabra*), a large tree of the same genus as the Horse Chestnut of our streets. It is a powerful poison and destructive to animal life, killing the cattle that eat its nuts or leaves. Water in which it is found has a stupefying effect on fish.

"Black Locust", most probably, "*Robinia pseudo-acacia*", a beautiful tree of the pulse family common in the Western United States, easily recognized by its loose, slender, white fragrant flowers. It does not grow wild north of south-western Ontario. I have seen the locust tree as a garden ornament even at the foot of the Laurentides as far north as latitude 46°.

"Black Walnut", "*Juglans Nigra*", a large tree with dark bark, growing from Minnesota to Texas and from Massachusetts to Florida. It was very common in New York State, in the hilly country around our house of studies.

It has a corrugated nut. The almonds are sweet and of an agreeable taste. It is a tree of the same genus as the butternut, which is only the "white walnut." The butternut, too, is used in medicine, being famous for a purgative decoction made from its bark. It is also a stomachic.

"Devil's Bit", an herbaceous plant of the teasel family not growing in Canada but found in some parts of the United States."

"Black Snake Root" an umbelliferous plant (parsley family) of the genus "*sanicula*", so called from the Latin "*sanare*" to heal, on account of its medicinal properties. Very common around Toronto, growing in rich woods amongst our wild Canadian lilies, violets and mitreworts. Three species are common in the United States.

There are, I might say, two plants in our Canadian woods popularly known as the Black Snake Root: one is of the crowfoot family, "*Cimicifuga racemosa*" or bugbane, and the other of the parsley family, "*sanicula Canadensis*" or the sanicle, mentioned above. The latter, "*Canadensis*" is the black snake root of the Indians.

"Dogwood", the well-known Cornel. Several common species, which I have met in Ontario are the "*circinata*", the "*stolonifera*", and the "*paniculata*". They produce bunches of red or white berries. The astringent bark of the species "*florida*", also found in Ontario, is used in medicine as a substitute for Peruvian bark. The stem of the species "*circinata*" is of a beautiful yellow-orange colour, and as the pith occupies a great part of the interior of the stem, the Indians used the wood for the making of their "calumets" or peace pipes, hence the common name given it by the French-Canadians, "*bois de calumet*" or Calumet wood.

The flexible wood of the genus "*stolonifera*" (Red-osier dogwood) is used in the making of baskets.

"Wild Gentian", *Gentiana*, of which we have at least twelve well-identified species in America. There are four common species in Ontario. They make up one of our common medicinal genera. The root is a tonic and a febrifuge. Extract of Gentian and Gentian powder are much used to-day.

"The Dewberry" or High Blackberry (*rubus villosus*). An upright or reclining shrub of the Rose family with a tough stem armed with hooked prickles. It bears large, white flowers and an edible fruit. It grows on the borders of woods and is abundant in the west and southwest.

"Dittany" (*Cunilla origanoides*). In the United States a common plant of the mint family, growing from a rootstock. I did not meet it yet in my ramblings, but it is said to be common around Niagara Falls.

"Indian Physic, or Bowman's Root" (*Gillenia trifoliata*), a perennial plant of the Rose family, two species of which are common west of the Mississippi. It is found from Canada to Georgia. The root is an emetic, a cathartic, or a tonic, according to the dose.

"Pipsissewa", Prince's Pine (*chimaphila umbellata*). A plant of the heath family. It is a whortleberry and sister plant to the well-known spotted wintergreen. It grows throughout America from Quebec to Georgia and from the Atlantic to the Pacific. It is common around St. Catharines. It is a powerful astringent and also a diuretic.

"Milkweed or Silkweed", plants of the genus *Asclapias*, of which there are at least twenty species in America, being very common in Ontario. I have identified five species around Toronto. The species "*syriaca*" "*cornuti*", "*purpurascens*" and "*speciosa*" are common in the western states. The species "*tuberosa*" is often called "pleurisy root". It was thought, fifty years ago, that the milkweed, on account of its fibre, might replace flax, but experiments failed to realize the expected results.

"Puccoon", a plant of the borage family, to which also belongs that well-known plague the "blue-weed". The Indians of Champlain's time evidently gave the name puccoon to the blood root, or "*sanguinaria*".

"Canadensis", that beautiful little spring plant of the poppy family, so common in Ontario and Quebec. It is a perennial, growing from a rootstock or underground stem. Its name "*sanguinaria*" is derived from the fact that red acrid juice is given off from the plant and especially from the rootstock. The rhizome is a purgative and emetic.

"Prickly Ash", a shrub or tree of the Rue family abounding in a pungent or bitter aromatic acrid volatile oil. The medicinal leaves of the rues are used as a vermifuge or sudorific. There are two common species in America. The northern prickly ash or toothache tree, "*zanthoxylum americanum*" is common around Montreal, where I first met it. The genus is found all through the western and southwestern states.

"Indian Turnip or Jack in the Pulpit" (*arisaema triphyllum*). The bulb-like root of this plant has an intensely acrid taste. It was used by the Indians against colic. The whole plant is a powerful poison. I have often found it growing in the ravines and bogs around Toronto.

"Hazel Nut" (*Corylus Americana*, or *Corylus rostrata*). The species "*rostrata*", more common northward, is also common throughout the western states. It is very common in Ontario. The bark is an astringent and a febrifuge.

"Sassafras" (*sassafras officinale*). A moderately sized tree of the laurel family with spicy aromatic bark and roots, common enough around Toronto. It grows from Ontario to the Gulf of Mexico. It is a powerful febrifuge.

"Seneca Snakeroot" (*Polygala Senega*). A low plant of the genus *polygala*, common in Ontario, growing abundantly all over Canada and throughout the western and southwestern states.

"Red or Slippery Elm" (*Ulmus Fulva*). A tree with reddish wood and a very slippery mucilaginous inner bark, growing in rich ground in Canada and United States. The bark and leaves pounded in water give a mixture to combat coughs and colds.

"Wild Ginger" (*Asarum Canadense*). A low herb, growing from an aromatic, pungent rootstock, very common in our damp Canadian woods. It grows from Canada to the Carolinas. It appears in May or early June. It is a febrifuge and a stimulant and it is used in cases of whooping cough.

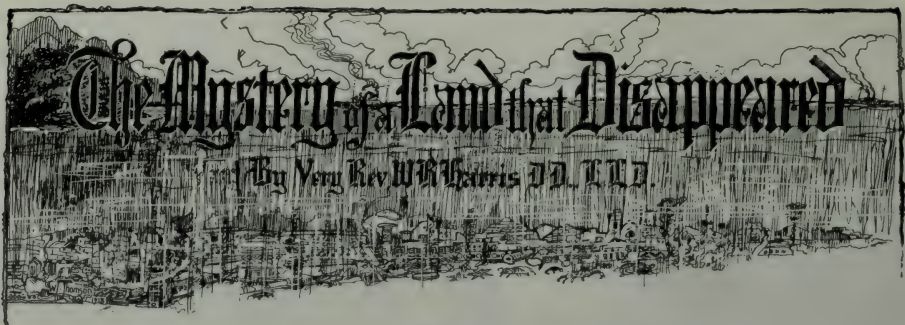
"Spikenard" (*Aralia racemosa*). A plant of the ginseng family. The ginsengs are highly prized in medicine, especially in Asia by the Chinese. The spikenard grows from a large, spicy, aromatic root. It is a sister plant to the wild sarsaparilla (*Aralia nudicaulis*) which is such a familiar plant in our Toronto woods.

"Sumch" (*Rhus typhina*). A tree of the cashew family, about ten feet in height and of the same genus as the poison ivy. It grows as far north as Quebec, and south to Georgia. It is very abundant at East Toronto, just east of Blantyre Avenue. The acid fruit of this tree makes a very refreshing and agreeable drink. The bark and leaves are employed in the tanning of leather.

"Tulip Tree" (*Liriodendron tulipifera*). A very beautiful tree of the Magnolia family. The timber is very white.

The Star flower of the text is not at all the star flower of our woods (*Trientalis Americana*).

"Fireweed" (*Erechtites hieracifolia*). A coarse annual of the Composite order with tall stem and whitish flowers. It is found both in the United States and Canada, and is common in Ontario. It derives its name from the fact that it grows abundantly in places lately over-run by fire. In some parts of Canada the name "Fireweed" is falsely applied to the Great Willow Herb (*Epilobium Angustifolium*).



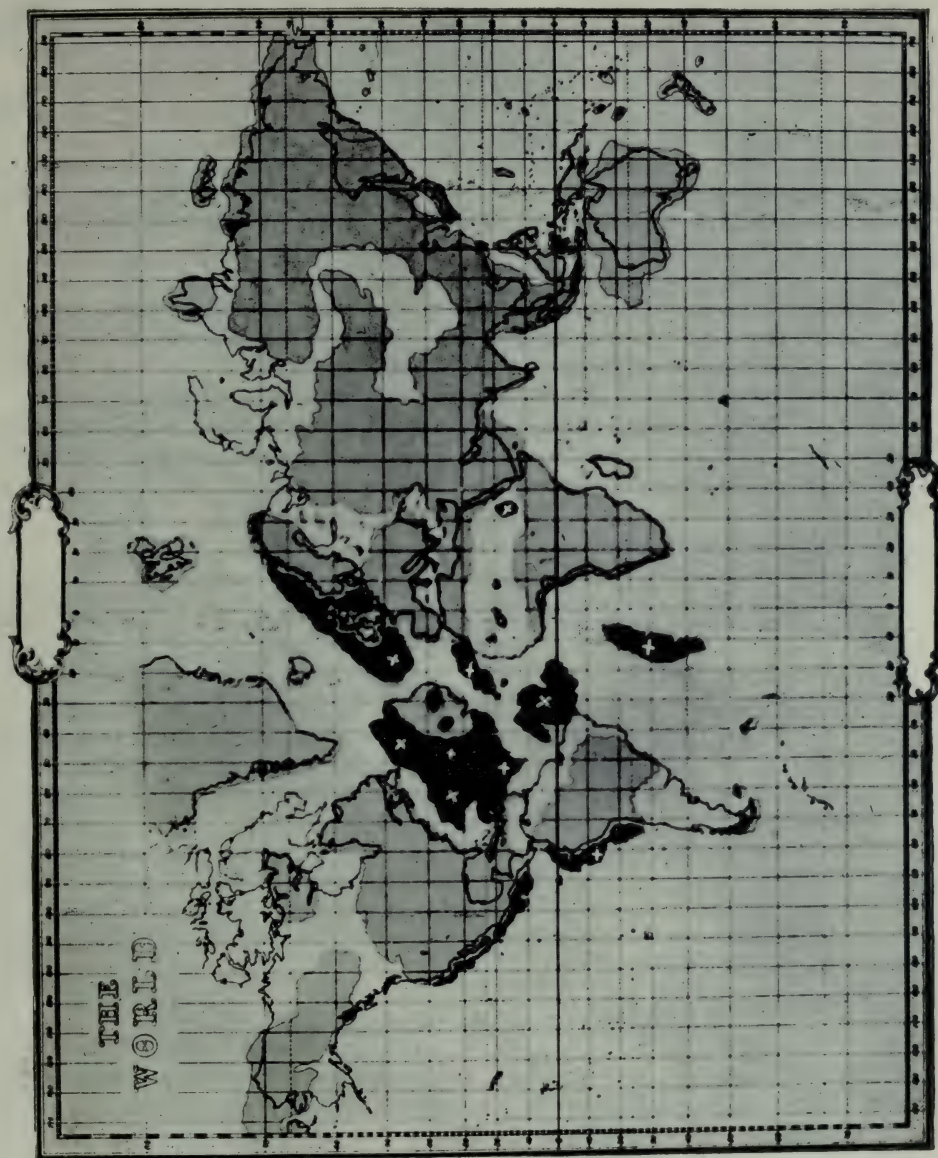
VI

"We must know when to doubt, when to feel certain, when to submit. Who fails in this understands not the force of reason. There are those who offend against these three rules, either by accepting everything as evidence for want of knowing what evidence is; or by doubting everything, for want of knowing when to submit; or by yielding in everything, for want of knowing when to use their judgment."—*Pascal, "Pensées."*

PREAMBLE.

From the triumphant hour when Columbus, accompanied by copper-coloured and eagle-plumed men of the new world, stood before Ferdinand and Isabella, speculation began among the learned and the curious over the origin of the people inhabiting the mysterious western lands. The same elusive problem has challenged the attention of scholars and scientists for four hundred years and is to-day pleading for solution.

The literature on the subject is enormous and is, spasmodically, increasing in bulk and complexity. Indeed, if all the books and pamphlets that have been written on the origin of the American Indian could be resuscitated and collected, "the world itself," to repeat the words of St. John, "would not be able to contain them." The mists which obscure the beginnings of aboriginal man in America impair our vision to-day, and at best we have only the consolation of the blind man of Bethsaida, who saw "men, as it were trees, walking." No one, however omnivorous his reading, may hope to study and digest all the home and foreign literature bearing on the perplexing question. At most he can but cull from the confused mass a few important facts decisive of a partial solution. In a brief article such as this it is impossible to do more than skim the surface of views and theories of great importance. Any attempt to reconcile the conflicting opinions and hypotheses on the abstruse subject would involve us in hopeless confusion. In this article we will endeavour to keep the question free from obscurity, avoiding when we can, technical words and expressions. We will follow what appears to be the line of least resistance, and advance a theory which, in the attempted solution of this intricate problem, presents the authority of *greater probability*. If it were possible to reconstruct ancient American history to-day, to place it on a solid foundation, and to reunite in uninterrupted chronological order the cosmographic fragments found in Maya hieroglyphic writings, in Hondurian Katuns, and in the narratives of Spanish and Indo-Spanish historians, much light might be thrown upon the origin of a mysterious race and of a land that disappeared in primordial times.



The land that disappeared—marked black.

A RETROSPECT.

When studying the progress of civilization, we notice that everywhere the knowledge of man increases with the enlargement of the territory open to his researches. Scientific men assure us that, in proportion as science is expanded by new discoveries and new demonstrations, the field of knowledge is also expanded.

With the discovery of America all departments of knowledge experienced a change and a forward impetus, of which the memory of our day is barely conscious. If we study carefully the publications of that wonderful epoch and compare the exploits, explorations, and achievements of the Spaniards recorded by Peter Martyre de 'Anghiera, Oviedo, Cortes, Dias, Gomarra and others, with the knowledge and the results of the discoveries of the men of our own times, we will be surprised at the extent of their knowledge, and will discover in the works of these early writers the germs of the most important physical and physiographic truths which occupy the thoughts of the men of the twentieth century.

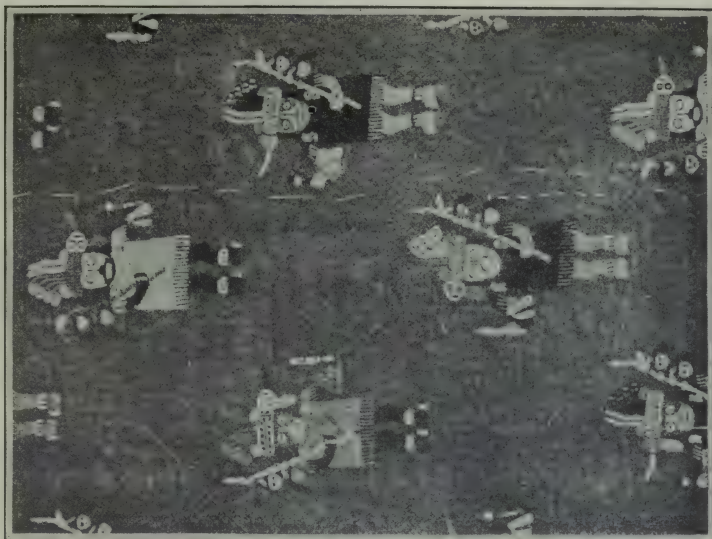
The learned men of the sixteenth century pondered over the origin and migrations of the aborigines of the newly found continent and the filiation of their languages and dialects; they studied and catalogued the plants and animals of the lands; they disputed over the trade winds and the pelagic currents. They endeavoured to find out the cause of volcanic eruptions and their relationship to earthquakes. They mapped and delineated whole regions, named mountains, rivers and valleys, and left us an invaluable library on original man and savage nature. In this incomparable collection are included dissertations on botany, geology, mineralogy, zoology, ethnology, and on tribal manners and customs, interspersed with characteristic anecdotes and bits of folk-lore.

The wonderful discoveries, the dual conquests in the intellectual and physical worlds, were more worthily appreciated by the men of these times than we dream of to-day. From the pen of a contemporary of Columbus we learn with what a profound sentiment of admiration the intellect of that time accepted the close of the fifteenth and the whole of the sixteenth centuries as eras full of the marvellous. "Every day," wrote Peter Martyre de 'Anghiera, "brings us new prodigies from this new world, from the antipodes of the west, which a certain genius named Christopher Columbus has discovered. Our friend, Pomponius Loetus, cried with joy when I imparted to him the first news of this astounding discovery. 'Who now,' he exclaimed, 'can cease to wonder over the discoveries attributed to Saturn, to Ceres and Triptotemy, or who can deny that the Phenicians reunited the wandering tribes and *founded great cities in far distant lands.*' It was reserved for our day to have enlarged the horizon of thought and to see for ourselves the possibility of new and great achievements."*

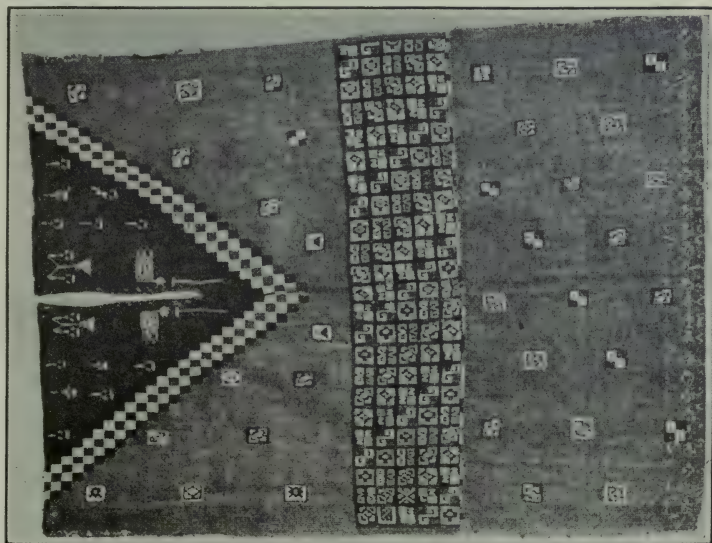
BRIEF REVIEW OF PRE-COLUMBIAN CULTURE.

In 1915 Professor Hiram Bingham, Director of the Yale Peruvian expedition, visited the ruins of a megalithic city of ancient Peru, two thousand feet above the Urabamba River. On returning to the United States he wrote an account of his explorations. He tells us of the remains of a city that was built probably a thousand years before the Redemption; that the ruins are of extraordinary interest, of great magnificence and bulk, and that the ancient city included temples, palaces and public baths, and about one hundred and fifty stone houses. The great blocks of

* "De Insulis Nuper Repertis." Preface VI.



A splendid shawl-like garment from Peru.



Fine pre-Incan poncho, with typical designs.

white granite, some of them twelve feet long, are so cut and jointed that it is sometimes difficult to say where the joinings are. Though no mortar or adhesive substance was used, the walls have withstood the elements for at least two thousand years. Further on in his narrative Mr. Bingham adds: "The Peruvian pottery of these ancient people bears a striking resemblance to that of ancient Greece. . . . They reached a high degree of skill in the manufacture of textiles, and, from the wool of the domesticated alpaca, wove excellent cloth. We found surgical tools and instruments for trepanning made of obsidian. They tamed the llamas and alpacas, by the aid of which they transported, for hundreds of miles, stones weighing fifteen tons. In architecture, engineering, pottery, and textiles, they equalled the ancient Babylonians."*

The work that these early builders accomplished is beyond our comprehension. Nor may anyone explain how it was done. Huge rocks that were quarried and transported with great labour and by the combined efforts of hundreds of men were fitted together with wonderful nicety. "To say there are seams too fine to insert a knife edge," writes Mr. Bingham, "leaves the story only partially told."

When Dr. George K. Cherri, the naturalist, returned in 1917, from his explorations in the regions of the River of Doubt, Brazil, he informed us that, when he visited the old Inca capital of Cuzco, Peru, he found abundant evidence of a great and ancient civilization. He also passed some days examining the pre-historic fortifications of *Ollantambo*, "where," he writes, "great blocks of granite, six feet by twelve, have been transported hundreds of miles to the summit of a hill so steep that I doubt if a goat could climb it to-day." The Spanish historian, Garcillaso, in his fifth volume, says that many of the stones in the fortress of Saesahuanan, Peru, are of great size, and that a Spanish priest, who visited the cyclopean structure, accompanied by a military officer, was so amazed at the massiveness of the blocks that he asked his companion "if it were possible for men to raise and place in position the stones without the aid of the devil." One of these stones which was lifted to a height of sixty feet weighs one hundred and seventy tons.†

IRRIGATION AND AGRICULTURE.

Professor O. F. Cook, who, in 1915, explored the region around Ollantayamba, Peru, and studied the agriculture of the early people, informs us that "the ancient Peruvians were probably the most industrious and highly organized people in history. *Centuries* before Columbus discovered America they had developed an intense agriculture."‡

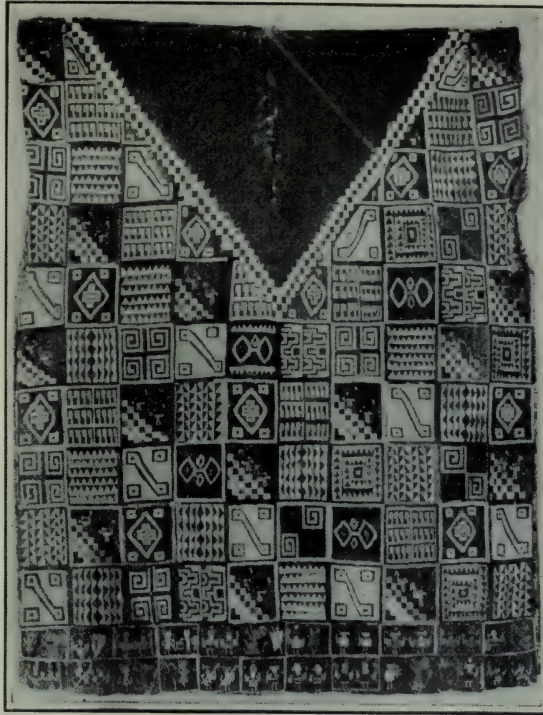
Peru reached a stage of reclamation projects long before America was discovered by Europeans. "Our own undertakings," Mr. Cooke assures us, "sink into insignificance in the face of what this vanished race accomplished (p. 476). The construction of the ancient channels for irrigation was an enormous undertaking, perhaps not equalled in any other part of the world, and from these aqueducts alone we have the right to conclude that agriculture and horticulture must have attained a high development." Garcillaso, in his history, speaks of one aqueduct one hundred and twenty leagues long, with a depth of twelve feet, and of another irrigating canal fifty-five leagues in length.¶

* "Explorations in the Land of the Incas." Washington, 1916.

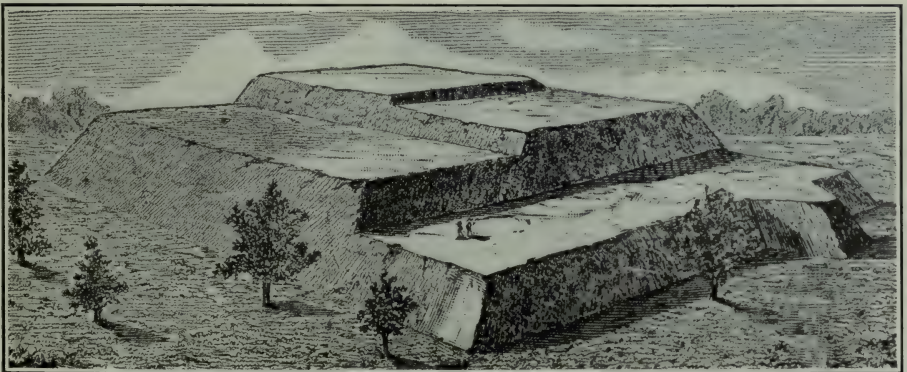
† Prehistoric Man, p. 264, Scott Elliot.—Seely & Co., London.

‡ Staircase Farms of the Ancient Peruvians." National Geographic Magazine, 1916.

¶ The old Spanish league is equal to 2.41 of our miles.



A handsome poncho in brilliant colors from old Peru.



The Great Cahokia Mound near St. Louis, Mo., U.S.A.

Writers of large historical works on America in early Spanish times, such as Garcillaso de la Vega and Cieza de Leon, may be suspected of exaggeration for effect, but surely no such suspicion may rest on the names of eminent professors associated to-day with our great universities and national historical societies. Among these distinguished men is Professor O. F. Cook, who tells us that: "The ancient Peruvians had the most complete social organization of which we have any record. These people performed a lasting service for the whole world" (p. 533); and Scott Elliot, who writes: "In both these states (Mexico and Peru) copper seems to have been known. In Peru, under the Incas, metal work was very ingenious. Gold, silver and bronze were skilfully managed, beaten out, or worked up into filigrees. There were images of singing birds in gold and a profusion of gold plate."* We can now understand why Piedrahita, Bishop of Grenada, writes in his history that he saw "elegant articles of filigree fashioned into figures of eagles, toads, snakes, and into ear-rings and bracelets." The philosopher, Carli, after examining articles unearthed near Cuzco, says that: "It is certain that French mathematicians have not been able to understand how these ancient people succeeded in making statuettes of gold and silver, hollow and thin, and of one cast."†

Of the advanced material civilization of Central America, Peru, Colombia, and neighbouring lands, there cannot now be two opinions. People who could handle huge blocks of stone, determine the precession of the equinoxes, calculate the periods of the moon and stars, build great pyramids and substantial houses in stone, invent a hieroglyphic and an ideographic writing, reach a high level in ceramic, metallurgic, and lapidary arts, dig great irrigating canals, construct metallized highways and excel in agriculture, were, for their time, beyond contradiction, a high barbaric, if not a civilized race.

We are all familiar with W. H. Prescott's flamboyant description of the barbaric splendour of Montezuma's palace and of the civilization of the Toltecs and Aztecs, yet, overlooking his exuberant imagination and the temptation to exaggerate on the part of his Spanish authorities, we cannot charge his witnesses with deliberate misrepresentation. Nor does the fact that the Abbé Brasseur de Bourbourg is at times too greatly influenced by Maya myths and legends invalidate his proofs and arguments supporting the social culture of the Mayas. We cannot suspect a conspiracy of deception among all the Indo-Spanish and Spanish writers and historians of Mexico, Central America, and Peru, during the sixteenth and early seventeenth centuries. In their ideas and in the expression of their ideas they differed one from the other, but in their admiration for the civilization, even in its decay, of the Mayas and the Toltecs or Aztecs, they were unanimous.

The Indo-Spanish historian, Fernando de Alba Ixtlilxochitl (pronounced Isht-lil-shot-itl) in the Fourth Relation of his history says that "with tools made of tin and copper they cut not only metals but precious stones. They fashioned metal of gold and silver in a very delicate way. Their metallurgists so mixed metals that feathers of birds and scales of fishes would be alternately of gold and silver. With tools of silver and flint, called *quijarros*, they carved images of their gods out of alabaster and onyx. They painted, true to life, landscapes, birds, animals, fishes and lizards. They had sculptors, carvers, painters, mosaists, metallurgists and moulders to give shape to stone, clay and metal. Their jewellers and lapidaries could imitate all manner of plants, animals, flowers and birds. From vegetable and mineral dyes they could imitate any colour, and from the hair of animals and feathers of birds, they made feather cloth."

* "Prehistoric Man and His Story," p. 263.

† "Lettres Americaines," Vol. I, p. 21.

Lizana says that the ancient Mayas built four great roads through Yucatan, Chiapas and Tabasco, and that traces of these highways remained till the time of the Spanish conquest. Furthermore, Désiré Charnay, in his "Ancient Cities of the New World," informs us that he discovered remains of a concrete road from Izmail, Yucatan, to the shore of the sea, facing the sacred island of Cosumel. The immense ruins which the Spaniards discovered in the regions lying between the Gulf of Darien and the Equator, particularly in the territories of Cartama and Caramenta and the basin of the upper Magdalena; the roads metalled with great stones, larger even than those in the walls of Cuzco, all these, with other existing traces of an ancient civilization, prove the population and strength of a race which, at the time of the Conquest, was descending to savagery.*

More plants were domesticated in Peru, than in any other part of the world. Domestication of a large series of crop plants, such as cotton, Indian corn, potatoes, cassava, beans, peanuts, tobacco, quinoa, and the Gulielmo palm, dates back to immemorial times. Botanists tell us it demands a very long time to cultivate and artificially propagate a wild plant into a domestic.

TESTIMONY OF EYE WITNESSES.

There are seventy thousand square miles of territory in Central America, Chiapas and Yucatan, where the traveller is seldom out of sight of some monument, pyramid or group of buildings, the remains of an unknown and pre-historic race. The explorers and travellers, Palacio (1567), Del Rio (1787), Dupaix (1807), Stephens and Catherwood (1840), Désiré Charnay (1880-6), the Abbé-Brasseur de Bourbourg (1854), Squier, Waldeck, and others, who travelled through these mysterious lands, testify to the excellence of the workmanship of the early builders and contend that these edifices, built of large stones, laid, in many instances, in mortar, are equal in point of finish to our best modern masonry.

On some of these buildings, like the "Casa Kabah" of Copan, words fail to give a clear notion of the work, for what definite conception is conveyed when it is stated that in a single continuous facade, 20,000 pebbles were used, fashioned into varied special shapes, and each fitted in to represent some individual part of the human face, some figure or geometric design, and all placed together with such skill as to give the impression of an unbroken whole.

Nor can any man say how old these ruined structures of Peru, Colombia, Mexico, Yucatan, Honduras, Nicaragua and Guatemala are; when they were built, how long they were inhabited, and when and why they were abandoned.

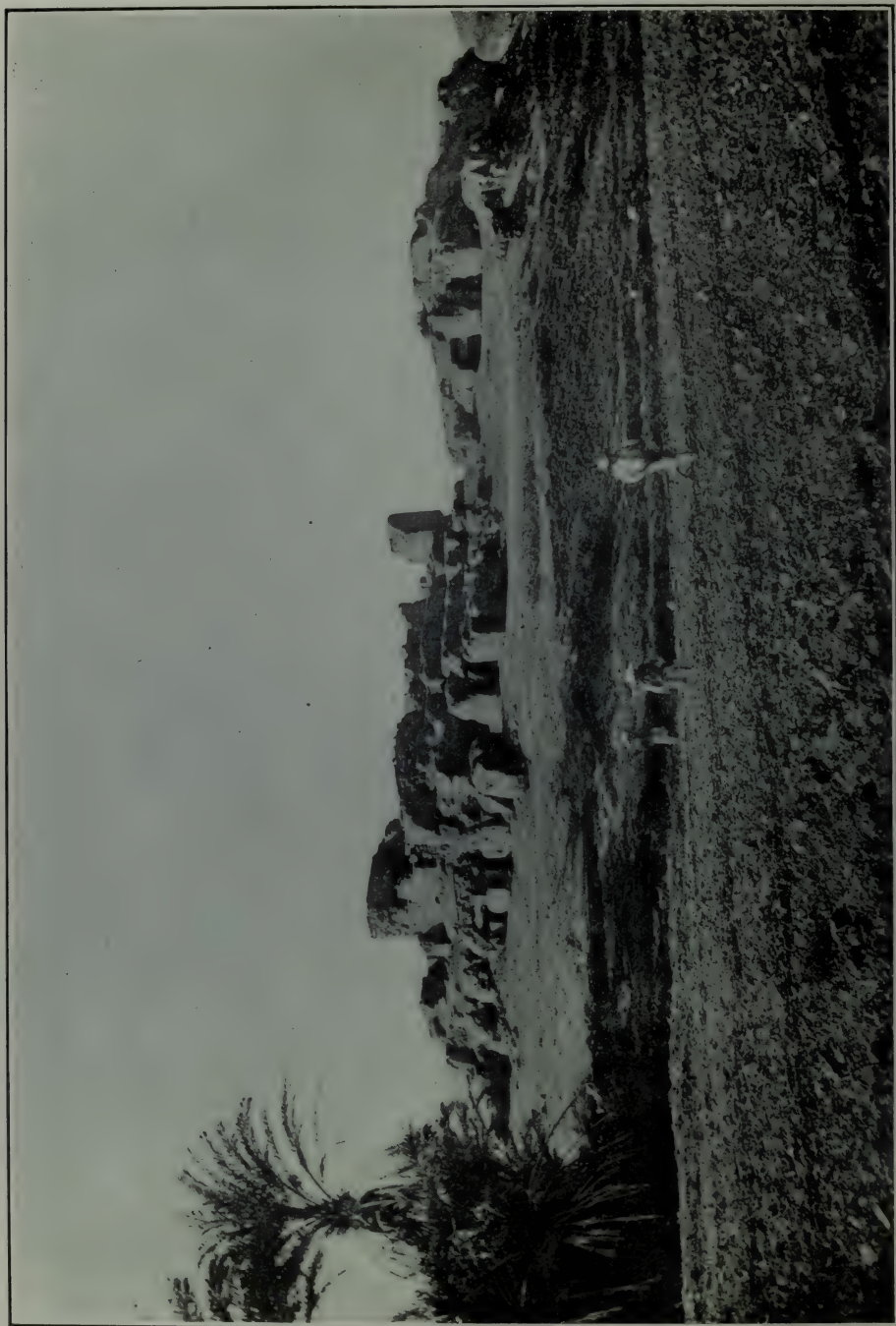
AGE OF PYRAMIDS AND BUILDINGS.

"Nations melt from Power's high pinnacle, when they have
Felt the sunshine for awhile, and downward go."

At the time of the discovery of America, the Peruvians, Mayas and Mexicans had lost the civilization of their ancestors and were descending to savagery. In spite of the fact that the Spanish conquerors found the Mexican tribes the most enlightened of all American Indians, yet these tribes had fallen sadly away from the civilization of the Toltecs and the pre-Columbian Mayas. "The cult of Mexico," writes Orozco de Berra, "was awfully hideous. It demanded a continuous shedding of blood." †

* In the fortress of Cuzco, Peru, are huge blocks of stone, 38 feet long, 18 feet wide, and 6 feet thick, brought from a quarry twelve miles distant.

† "Historia Antiqua de Mexico," Vol. IV, L. III.



Ruins of the Convent—Pachacamac—Peru.

Foul idolatry, gross superstition, cruel wars, and cannibalism, threatened the people of Mexico and Central America with extinction, or a degeneracy descending to the level of the Australian bushman. The ferocious and ruthless military confederacy composed of the Aztecs, Acoluas and Tepanecas (*Ixtlilxochitl*, "*Historia Chichimeca*." *Kingsborough IX*, 219), meant a war of extermination or servile subjection for all other tribes and, in the end, savagery for all. A. F. Bandelier, the greatest English-writing authority on Mexican pre-historic civilization, Charles F. Lummis, author of the "Spanish Pioneers," and Susan Hale, writer of books of travel, agree in stating that, at the time of the Spanish conquest, the tribes of Mexico and Yucatan were reaching the bed-rock of savagery.

AGE OF MAN IN AMERICA.

Then, when and by whom were these great pyramids and splendid buildings constructed? If it be true, as Hubert H. Bancroft holds, in his voluminous work, "Native Races of the Pacific," that the civilization of Central America antedates all eastern civilizations, then we may have to go back very far to the time when the great structures were erected.

Colonel Galindo, the explorer, also contends that America is the true cradle of civilization, and Le Noir is of the opinion that primitive American civilization is more than three thousand years old.* Captain Dupaix, in his book, says some of the buildings of Central America antedate the deluge. He states that in one of the courts of Copan he found vegetable mould nine feet deep, the beginning of which dated from the final abandonment of the buildings. In another court, at Palenque, the venerable traveller and artist, Count de Waldeck, in his "*Voyage Pittoresque dans le Yucatan*," tells us he measured trees that were nine feet in diameter, but this would be no proof of the age of the buildings, for other trees may have lived and fallen before Waldeck's trees began to exist. The Count also mentions that in one of the halls the stone tortoises, raised in relief on the granite floor, were worn down to almost obliteration by the feet of worshippers who were probably bare-footed.

Charles Darwin, the naturalist, says he found on the Island of San Lorenzo, off the Peruvian coast, *eighty-five feet above the sea*, shells that had long lain dead at the bottom of the sea. Continuing his excavations, he came across ears of Indian corn and a piece of decayed *cotton string*, resembling the twine he found with mummified bodies in the ancient burial grounds or *Huacas* of the Peruvians. He adds: "It is almost certain that they (shells, corn, etc.) were accumulated on a true beach upraised eighty-five feet, and upraised this much since *man inhabited Peru*." †

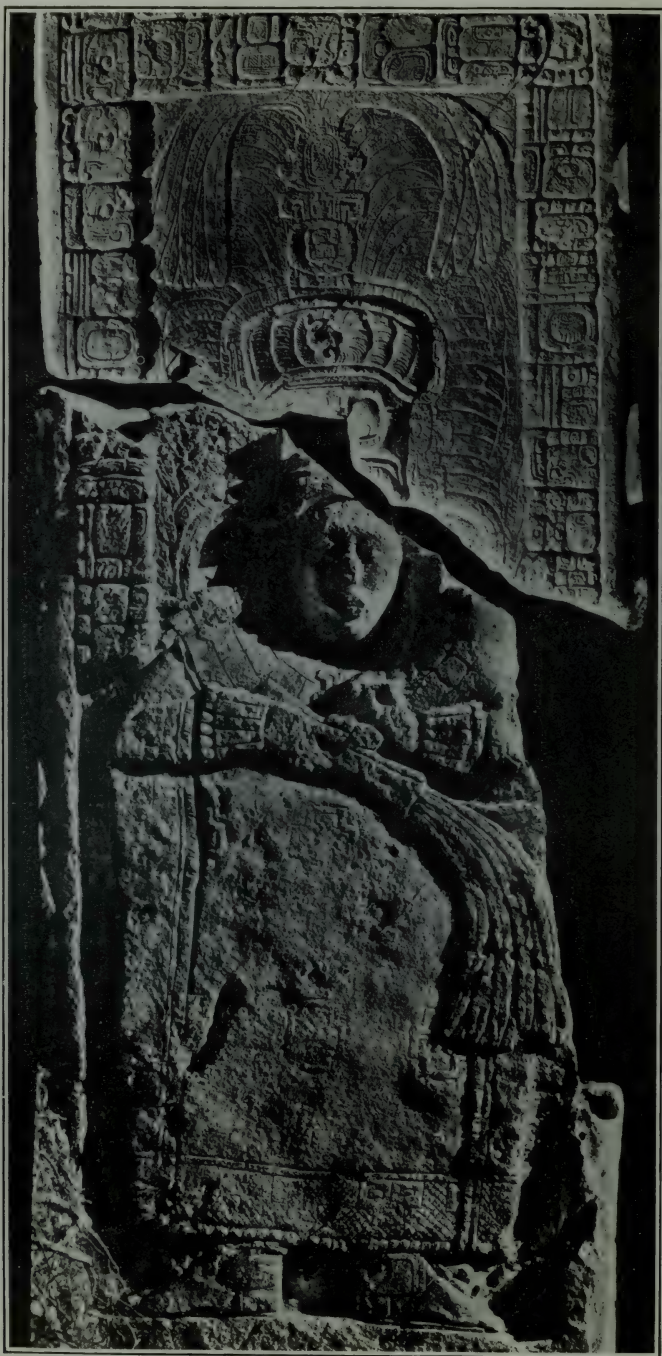
The remains of primitive art and the impress made by man on nature predicate his residence in America to be coeval with the oldest events of history. The kitchen-midden seen by Sir Charles Lyell at the mouth of Altamaha River, flowing into the Atlantic, was ten feet high and covered ten acres of ground. "How many years," asks Brinton, "would it require to accumulate such a mound of human offal, of bones, shells, and charcoal?" ‡

The ruins of Mitla, State of Oaxaca, Mexico, are to-day as they were when the Franciscan friar, Toribio de Benaventa, better known as *Motolinia*, visited and

* "Antiquités Mexicaines," Vol. III, p. 73.

† "Geological Observations," p. 260. Appleton & Co., 1897. 3rd ed.

‡ Myths of the New World," p. 37. Holt & Co., N.Y., 1886.



Stela I. Piedras Negras, Guatemala.

described them in 1529. But Désiré Charnay says he discovered, at Mitla, indications of an earlier architecture altogether superior to that of the existing buildings.*

Early in 1916 Mr. S. S. Morley left the United States with a party organized for archaeological explorations in Yucatan. At Tulum, on the east coast of Yucatan, he photographed and took measurements of a hieroglyphic monument carrying a Maya date corresponding to our year 290 A.D. At Uxactum the party found the remains of a large city and a monument belonging to Cycle 8 of Maya chronology, bringing the time back to 50 A.D.

In South America, as in Mexico, Yucatan, in Central America, everywhere, we find the remains of a prehistoric civilization, a civilization so old that we cannot, even approximately, estimate the era of its decline.

"Near these regions," says Theodore Roosevelt, writing of the forest wealth around Paramo de las Pappas, State of Columbia, South America, "civilization after civilization has sprung up, flourished and withered away to nothing during the dim ages before the Spanish sea-faring adventurers first crossed the western ocean."†

In 1916 the American Museum of Natural History sent Professor Leo E. Miller to the lands around the head-waters of the Magdalena River in search of specimens of rare birds and their nests. Returning, in 1917, he tells us that in the forests of these unfrequented and uninhabited regions he found the remains of ruined temples, altars and monoliths, stone images from two to eight feet high, and "the remnants of works of art which have yielded to decay with the passing of the centuries." Continuing, he writes: "Just how to account for the advance of civilization to a point where art and architecture were encouraged, and which supported a well organized form of government, and then to explain its complete extinction, is a question we cannot answer."

Dr. Unsolding, Curator of the Paraguay National Museum, visited, in 1916, the remains of the ancient city of Tiahuanaco, Bolivia, and the ruins of a city recently discovered at Tacumba, Paraguay. He claims they antedate the Christian era and prove the extent of ancient American civilization.

Admitting then, with Professor Cooke, that there was in America, at least two thousand years ago, a civilization not inferior to that of ancient Egypt and Assyria, we are confronted with two problems inviting a solution:—

1. From what land did these ancient people come?
2. How did their civilization originate and develop?

"The Church is committed to no theory as to the age of the world or its inhabitants."
—"Evolution and Dogma," XXV, J. A. Zahm, Ph.D., LL.D., C.S.C.

AGE OF THE HUMAN RACE.

While Professor Cooke admits that American civilization existed two or three thousand years before the time of Columbus, he does not, nor does any paleontologist, undertake to say how long man has existed on the American Continent. If we can determine, even approximately, the beginning of man's appearance on our earth, it may assist us to explain how human beings found their way to America in the remote past.

If, according to Professor Keith, who has written many books and papers on anthropology, man was upon the earth 350,000 years ago, then he was here in pleistocene time, the period when, according to recent authorities on oceanic changes, America was united to Europe and Africa by land. "Ever since the fact of the

* "Les Anciennes Villes de Nouveau Monde," p. 63.

† Scribner's Magazine, May, 1917.

antiquity of man was first accepted by European geologists," writes Alfred Russel Wallace, "each fresh discovery tends to extend that antiquity. The real mystery is not that the works or remains of ancestral man are found throughout the pleistocene period, but that they are not also found throughout the pliocene and also among some miocene deposits."* Many years before Wallace's studies in paleontology, Sir Charles Lyell wrote: "But that the growing power of man may have lent its aid, as a destroying cause of pleistocene animals, must however be granted."†

Henry Fairfield Osborn, in the introduction to his "Men of the Old Stone Age," tells us that: "According to my view, man, as such, chiefly evolved during the half million of years of the Pleistocene epoch." Further on he adds: "We have an unbroken record of continuous habitation (in Europe) from a period as remote as 100,000 years." Writing of the "cave finds" in France and Spain, he adds: "The earliest of these undoubted handiworks occur relatively late in the Pleistocene, namely, about 125,000 years ago."‡

Dr. Smith Woodward says that the Piltdown brain case, discovered a few years ago in England, belongs to early pleistocene time, that is to say, that man was upon the earth three hundred thousand years ago. Nearly all paleontologists and geologists admit that man lived in the pleistocene age. Now if it can be shown that in early or late pleistocene times a land connection joined North America to Europe and to West Africa, then, possibly, it can also be shown that man at one time lived on this now submerged land and used it as a bridge, as did animals, to pass from continent to continent. Sixty years ago the possibility of a land connection between Europe and America was denied a hearing by the scientific authorities of the time, but the immense advance that has been made in the study of botany, zoology, ichthyology, reptiles and amphibians has, to-day, placed beyond successful contradiction the necessity of such a connection. When, seventy years ago, D'Orbigny argued in favour of a land bridge across the mid-Atlantic to enable certain species to cross the ocean by travelling, along a continuous shore line, his contention attracted little interest among the learned men of that time.¶ To-day nearly every zoologist of repute admits that it is impossible to explain the existence of identical species of fauna in Europe and America, without admitting the existence in early times of land in the Atlantic connecting the two continents. So that now we are driven to acknowledge that the myths and traditions of the Carthaginians, Egyptians and Athenians, of a submerged continent were founded on a reality.

TRADITIONS OF THE ANCIENTS.

Long before the time of Columbus there was handed down from remote times a belief in the existence of a great island or islands far out in the Atlantic Ocean, known as Antilla, or the Antilles. The tradition of a lost continent always lingered

* "World of Life," pp. 246-247. Bell & Sons, London.

† "Antiquity of Man," p. 418, 1873 ed.

‡ Professor Ernest Heinrich Haeckel, originator of the theory of "fundamental biogenic law," in his "Natural History of Creation," goes back one hundred millions of years for the beginning of life upon the earth. His geological chart of the earth starts with the *Laurentian*, millions of years ago, and is continuous up through the *Cambrian*, *Silurian*, *Devonian*, *Carbon*, *Permian*, *Trias*, *Jura*, *Chalk*, *Eocene* (280,000 years ago), *Miocene*, *Pliocene* (the three forming what is known as the Tertiary Age); *Glacial*, *Post Glacial*, and *Recent*. Haeckel's first man appears in the Post Glacial era, say 40,000 years ago. The word Pleistocene used by Prof. Osborn and others was a term introduced by Lyell in 1839, for later Pliocene. It is now understood to mean the older of two divisions of the Post Tertiary or Quaternary period hundreds of thousands of years back in the palaeolithic age.

¶ "L'homme Americain," p. 411.

with the people inhabiting, in early times, both shores of the Mediterranean. The Carthaginian and Phenician navigators were known to have visited strange lands lying beyond the Canary Islands. Unless there was some communication, in the thirteenth and fourteenth centuries, between Europe and America, it is difficult to explain how, as Muratori has shown, Brazil wood was entered as a taxable commodity at the Port of Modena in 1306; or how Andrea Bianco's map, preserved in St. Mark's Library, Venice, and constructed in 1436, places an island in the Atlantic and calls it *Brazile*.*

Plutarch, in his "Life of Solon," informs his readers that when the Greek sage visited Egypt—six hundred years before the Redemption—Egyptian priests, whom Solon had met at Sais and Helipolis, said that nine thousand years before their time a great continent called Atlantis existed. That it was peopled by a commercial and military race with whom the ancient Lybians and those living in the basin of the Mediterranean traded. That, in time, volcanic eruptions, great earthquakes and inundations of the sea overwhelmed it and it disappeared for all time.† "This narrative of Plato," writes the French astronomer and historian, Bailly, "bears all the marks of truth. It is not a fiction invented to amuse and instruct his readers."‡

Perhaps the strongest proof that Plato did not invent, but accurately quoted Solon is that, six centuries before his time, Homer, who was well informed on the geography and customs of foreign people, refers in his *Odyssey* to Atlantis and the islands of the sea.§ Christian Bunsen, whose vast erudition constitutes him an authority, reluctantly admits the narrative of Solon to be authentic and that possibly an Atlantis once existed.§

Adverting to the vitality of a tradition, it is of importance to remember that the word *Atlas* is found in the writings of nearly all the authors of ancient times, and that the land and people of Atlantis are mentioned as existing in the Atlantic Ocean. In the classic authors of Greece and Rome mention is often made of a Saturnian land lying towards the setting sun, distant many stadia from the Pillars of Hercules (Gibraltar).**

Moreover, a belief in the existence of this land in the middle of the Atlantic, and its submergence, due to violent seismic convulsions, was held by scholars even unto the fifth century. Proclus, the great teacher of the Neo-Platonic school at Athens, a man familiar with the science and knowledge of the ancients, tells us in his "Commentaries on Plato's Times," that: "The famous Atlantis exists no longer, but we can hardly doubt that it did once, for Marcellus, who wrote a history of Ethiopian affairs, says that such and so great an island once existed, and that it is evidenced by those who composed histories relating to the eternal sea, for they relate that in this time there were seven islands in the Atlantic sea sacred to Proserpine; and three of immense magnitude were sacred to Pluto, Jupiter and Neptune; and besides this the inhabitants of the Island of Poseidon preserved the memory of the prodigious magnitude of an Atlantic island as related by their ancestors, and of its governing for many periods all the islands on the Atlantic sea."

* Cardinal Wiseman's "Study of Languages," p. 86.

† "Plato's Timæus," translation of Victor Cousin, Vol. XII, p. 3.

‡ "Essay on the Origin of Fables and Ancient Religions," Intio., p. 11.

§ Homer, Book I, Part II, Bryant's translation.

§ "Egypt's Place in the World's History," Vol. IV, p. 421.

** Rock of Gibraltar, the Calpe of the Ancients, was the Abyla or "Apes Hill," the opposite promontory, the western end of the then known world.

The same author writing of "a western continent," says: "It is several thousand stadia from Oxygia."*

Diodorus Siculus, the Greek historian, who lived one thousand five hundred years before Columbus discovered America, attributes the discovery of America to the Phenicians, and describes it as a land where the aspect of the country is varied by very high mountains and where the temperature is ever soft and equable. Then he says: "Over against Africa was at one time a very great island, many days' sail from Libya (Africa), which was destroyed by a tremendous convulsion of nature or by successive convulsions." It is possible that the supposed submergence of Atlantis occurred much later than the Cretaceous period of the Mesozoic age, for on Atlantic islands, types of animal and vegetable life were found belonging to the Pleistocene period, the beginning of the quaternary age, when man is known to have been on earth. Now, if the traditions of the Egyptians, Grecians and Carthagenians are not mere figments of imagination, there must have been a continent, a very large island, or many islands in the Atlantic inhabited by men and women. But all oceanic islands at a distance from their nearest continents were, from historic times, uninhabited. In the Atlantic Ocean the coral Bermudas and Barbadoes, the volcanic Azores, the Falkland Islands, St. Helena, and Tristan d'Acunah, were all uninhabited. Even New Zealand was unpeopled until A.D. 1400. In the entire Atlantic the Canary Islands alone were inhabited, and when in the thirteenth century the Spaniards discovered them, the fair-haired and blue-eyed tribes of the islands could tell nothing of their origin or where they came from. They called themselves Guanches and told the Spaniards that God had placed them on the islands, and, since then, had forgotten all about them. They believed they were the only people living upon the earth. All the islands of the Pacific lying west of South America—Juan Fernandez (Robinson Crusoe's island), Massa Fuera, Galapago and smaller islands were uninhabited. So we may reasonably conclude that the first inhabitants of America were natives of a continent.

Assuming then the existence, at one time, of a great inhabited land in the Atlantic, many of the people must have escaped to America, Europe or Western Africa, and re-established themselves on the shore-lands, originating and perpetuating the tradition of a great cataclysm, for how otherwise can we account for the survival of the memory of Atlantis in Europe, Africa and America.

On the continent of America the countries which have furnished us the most invaluable and illuminating information of their aboriginal people are Central America, Yucatan and Mexico. These are the only lands where were found original documents (codices), inscriptions, and allegorical figures chiselled on the monumental walls of civil and religious edifices or on monoliths of aboriginal and peculiar character.

The earliest of these codices record the memory of three great catastrophies which, at separate times, in the history of their races visited their ancestors, and the tradition of which was perpetuated to the time of the Conquest.

The chiefs of the tribes peopling the islands of the Caribbean Sea, at the time of the discovery of America, repeated with entire unanimity that they had heard from their fathers and from very old men that the Islands of the Antilles (West Indies), great and small, belonged, in remote times, to the main land, from which they had been detached by great earthquakes, volcanoes, and inundations of

* A Roman stadium is almost an English furlong. Oxygia, the island where Ulysses was detained for years by Calypso. It was the name of an island said by Homer to have existed in the middle of the Atlantic.

the sea.* The history of a great cataclysm is also recorded in the "Hun-yeil," a Maya record printed in Maya characters, with translation into Spanish by Aguilar.†

The scholarly Von Humboldt was at first disposed to regard these national memories of a great cataclysm as cosmogonic myths which originated in India, were continued among the Persians and Chaldeans, and finally became imbedded in the ancient cycles of the Etrurians. But when he began to study more attentively the Mexican calendar, he expressed doubts as to the accuracy of his opinions and enquired if, after all, the "suns" or ages of the Mexican calendar did not represent certain pre-historic remembrances of great catastrophies which happened in past ages.‡

If this eminent man, whose historic intuitions were at times almost inspirations, was able to examine the documents now accessible to students of Mexican history and to have weighed their contents with the same critical and judicial mind which he brought to the study of his "History of the Geography of the North American Continent," he would have admitted that the cosmogonic records of the Mexicans and Mayas merited as much attention as did those of Egypt and India.

The Abbé Brasseur de Bourbourg, who lived among the Mayas of Yucatan, translated into French the sacred book of the Quiches, the "Popul-Vuh," and was a member of the Commission established to examine into the arts and science of ancient Mexico, assures us that all over Central America, Yucatan and Mexico, in the codices, national festivals, and on the monuments, the memory of a lost continent is recorded.¶ "Their memory of the great tragedy," he adds, "is that the earth was visited by frightful earthquakes, continuous volcanic eruptions, and finally overwhelmed by the waves of the sea." Professor M. Eckstein, who devoted years to the study of ancient myths, was of the opinion that "concurrence of extraordinary phenomena in Upper Asia, with comets and eclipses, preceded the deluge in antediluvian times and led to the migration and dispersion of many members of the human family."

St. Augustine seems to be of the same opinion when he says: "The partial desolation of the earth by the deluge and by upheavals left untouched certain members of the human family to repair the loss of the human race."§ This appalling cataclysm marked, probably, the destruction of Atlantis and many of the islands of the sea, and was perpetuated in the records of the civilized men and women who escaped. "The memory of a series of frightful catastrophies," writes the scholarly Brasseur de Bourbourg, in the introduction to his translation of the "Popul-Vuh," "which in remote times visited America, still remains with the people of Mexico and Central America."

The *Tonalamatle*, or early Mexican ritual, the codex *Chimal-popocan*, the Dresden Codex and the "History of the Suns," copied by Von Humboldt from Gomarra's "Conquest of Mexico," all mention a series of great catastrophies or eruptions, earthquakes, hurricanes, and tidal inundations, which destroyed many of the people and submerged an immense territory.

DRAFTS UPON THE BANK OF TIME.

As we advance in the study of our world and its ancient inhabitants we perceive that, in seventy years, science has taken giant strides forward, and that that

* "L'Histoire Primitive," p. 25, par Brasseur de Bourbourg. Paris, 1864.

† It is referred to by Landa and Cogolludo in their books on Yucatan.

‡ "Vues des Cordillieres," Vol. II, Chap. 27.

¶ Sources de l'Histoire Primitive du Mexique." Paris, 1864.

§ "De Civit, Dei," lib. XII, p. 10 et seq.

which was but a theory sixty years ago is now accepted as a reality. We know now that, in geological times, land and sea have shifted, the outer rims of continents altered and raised, and that the shore line of western Europe was in the past far out in the Atlantic. Archipelagoes have risen and new lands have been formed. Geiki, in his history of "Prehistoric Europe," says that the bed of the German Sea was at one time dry land. It is now admitted by geologists that France, the British Isles, the Shetlands, the Orkneys, and the Faroe group of islands, were united by a ridge, now submerged, which ages ago joined them together. In the past no scientist of repute openly sustained the hypothesis that at any time in the life of our earth a land connection existed between the old and the new world. The cloud of mystery enveloping ancient traditions and myths was deemed to be impenetrable, but recent discoveries afford the possibility of solving a problem supposed to be, like the elixir of life, outside the province of serious speculation.

But now that the subject has been investigated with the thoroughness of European scholarship, Atlantis is no longer a romance embellishing the tales of visionaries, or imposing by its vastness and fascination on the good nature of credulity. If, with Scott Elliot and Sir Ernest Shackleton, we admit that the antarctic regions of snow and ice were at one time a land of song birds, babbling brooks and great forests, then, since that time, anything may have happened.* Fossils of marine animals were found in the Andes at a height of 14,000 feet and in the Himalayas at an elevation of 16,000 feet. When the Spaniards first landed at Grenada, Tobago, Haiti, and other West Indian islands, they saw an extraordinary number and variety of unfamiliar animals, and among them the agouti, armadillo, the peccary or Mexican musk-hog, the maniocou or Grenada opossum, deer, monkeys, snakes, and many small animals now exterminated. Though some of these islands are more than one hundred miles separated from the main land, the fact that these animals were on them proves that, at some time in the past, the islands were torn by violent convulsions from their parent land.

Anyone at all familiar with the coast line of the gulfs of Paria and Carioco cannot fail to perceive the effects of a violent rending apart of the region, which opened a passage for the waters to enter. Nor did this separation occur in very remote times; for when Columbus, on his third voyage, visited Paria, the natives spoke of the catastrophe as an event which was not very old.†

In fact, all the indigenous tribes existing at the time of the Spanish Conquest, or before the extermination of the Caribs, in Central and South America, in Mexico and the West Indies, retained a tradition of a frightful calamity which, in the remote past, threatened the perpetuity of the human race. The traditions, monuments and lore of all these races and peoples record an immense catastrophe to which their remote ancestors were witnesses. It is everywhere the same tale, the ocean breaking its boundaries and overwhelming the land, destroying cities and their populations. It is the story of a continent broken by the same shocks which troubled the waters of the great sea and lifted mountains. Those who escaped the cataclysm built pyramids where they settled, in memory of the high places to which they fled, and in thanksgiving to their gods.

* "Prehistoric Man and His Story," p. 86. "Shackleton in the Antarctic," London.

† Codazzi. "Resumen de la Geografia de Venezuela," pp. 4, 6, 7.



The Famous Stone Images at Ronororaka in Easter Island, Polynesian Group,
South Sea Islands.

WHAT TIME HAS LEFT US.

The existence and disappearance of the continent has ceased to be one of the romances of the world, and now, in its vastness and greatness, takes its place among the certainties of the remote past. The examinations made, the facts recorded by Professor Carl Gagel, and the discoveries made by the French paleontologist, M. Pitard, go far to prove that a great continent at one time existed in the eastern half of the Atlantic Ocean, and that the islands of the Azores, the Cape Verde and Canary Islands, are the remains of the submerged land. Herr Gagel, one of the most eminent oceanic students of Europe, proves that the volcanic coverings of all these islands have under them more ancient strata such as would constitute the base of a continent.

M. Pitard found in the Canaries undoubted cretaceous or chalk deposits, and borings in the Cape Verde islands have shown sedimentary strata under the volcanic rocks. It is probable that the disappearance of Atlantis occurred much later than the cretaceous period, for on some of the Atlantic islands—the remains of the continent—species of animals and families of plants were found belonging to the pleistocene age, when man was on the earth.*

Even in the Pacific Ocean a great body of land must have, at one time, existed, leaving many islands to confirm its disappearance. Of this, that hard-headed and practical navigator, Captain W. J. J. Spry, of the *Challenger*, entertains no doubt, for he says: "Before the Deluge, in the Pacific Ocean, was a continent occupied by a race of human beings in a high state of civilization. In New Caledonia the remains of an ancient city, with paved roads and an aqueduct, have been found. In the Marquesas, the Navigators, Carolines and Ladrões, many gigantic ancient ruins have been brought to light."†

The wonderful archæological remains of Easter Island, South Pacific; the immense platforms formed of large stones, some of which weigh five tons; sea walls two hundred feet long and nearly thirty high, and colossal statues of lava-stone, thirty feet high, testify to the existence, in the past, of a race of human beings superior in education and intellect to the Polynesians and Malays who peopled the islands long after them, and who knew nothing of the men who raised these memorials. When Mr. Scoresby Routledge, who had passed sixteen months on Easter Island, arrived in England, June 24, 1916, he informed the members of the Royal Geographical Society that: "The many stone statues strewn about the interior of the island, which have heretofore been supposed to have been abandoned in their present locations while being transported from the platforms or terraces along the coast, were actually arranged *along former roadways*, and were evidently intended to remain where they now are."

We have no reason to doubt the accuracy of Mr. Routledge's statement, which goes to prove the advanced civilization of the ancient inhabitants of the island.‡

* The words *Atlas* and *Atlantic* cannot be traced to any language known to Europe. Their origin and etymology are a mystery. The Mexico-Spanish historian, Molina, says, in his "Vocabulary of Mexican Words," "That from the radicals *a*, *atle*, is derived the word *Atlan*, meaning, in the *Nahuatl* language, on the border or in the middle of water, and from which comes our adjective *Atlantic*. A town called *Atlan*, with a good harbour, stood at the entrance to the Bay of Darien, when Columbus first visited the land.

† "The Cruise of H.M.S. *Challenger*," W. J. J. Spry, R.N., F.R.G.S., p. 208.

‡ The island has an area of about fifty square miles, is 2,300 miles west of the coast of Chili. The famous stone images at Rororonaka, Easter Island, the gigantic statues referred to by Mr. Routledge, and the ruins of stone houses, are the remains of a race whose origin is unknown and of whom there is no tradition.

TESTIMONY OF TWENTIETH CENTURY SCHOLARS.

Professor R. F. Scharff, member of the Anthropological Society of Paris, after years of study of the faunal life of Europe and America, proves that, at some time in the past, America and Europe must have been united by land. He writes: "That such a land connection must have existed in *recent geological times* I do not doubt. The snail must have slowly wandered during a long series of centuries from the old world to the new by means of an ancient north Atlantic bridge."* He maintains that "all the deer in South America have originated from one or more ancestors which invaded that continent from West Europe in tertiary times," that the zoological affinity between Europe and North America is so strong that nothing short of a wide and convenient land bridge, with lakes, rivers, and mountains, will suffice to explain the meaning of certain paleontological facts. On page 153 he makes this bold statement: "What I wish to make clear is that huge creatures, requiring an abundance of vegetable food, must have poured into America in the era of mammals and leaf forests." In support of his claim for a submerged continent he summons as witnesses the naturalists, Dr. E. S. Morse and Professors Winkley and Cockerell. To these eminent names may be added that of C. W. Johnson, who, on page 73 of his latest work, "*Distribution of Helix Hortensis*," is of Scharff's opinion. Scharff, furthermore, adds that the seeds of anemones and other plants could not have found their way to America by the Bering Strait, but that "they came by migration from Europe to North America by a great land bridge," and that nothing short of a wide and convenient land connection between America and Europe will suffice to explain the existence of ganoid fishes in the Mississippi basin.

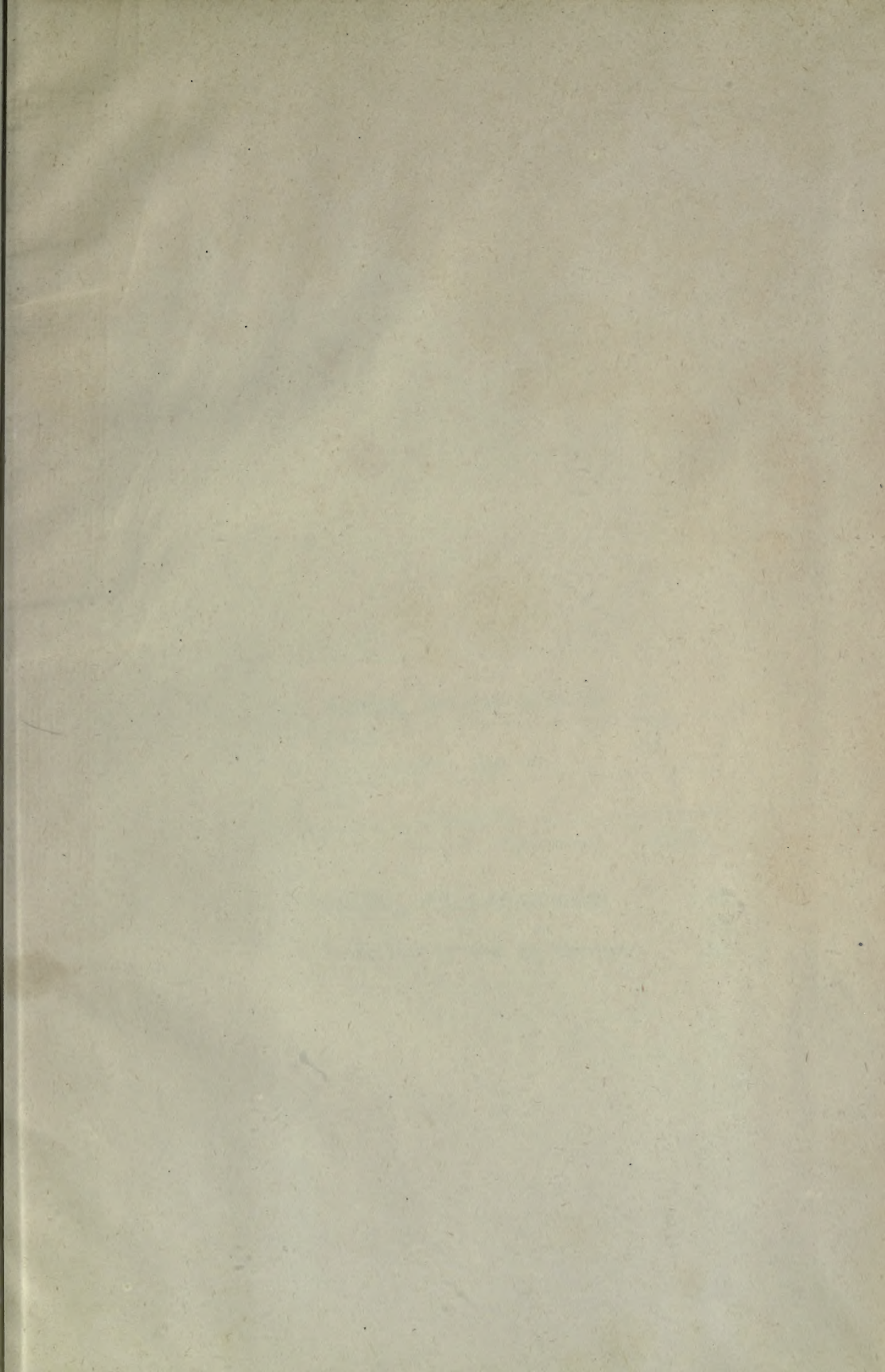
Professor Pilsbry, who, in his earlier writings, opposed the claims of those who contended for an Atlantic continent, now admits in his "*Manual of Conchology*" that Africa and South America were in remote times united by a land which has disappeared. Not only that, but many of those who believed in the immutability of an Atlantic basin, have, after a careful study of the zoogeography of America, changed their views and now admit the absolute necessity of a land bridge. Among these learned men are included Mr. Andrew Murray, who in his work on the "*Coleoptera of Old Calibar*" (p. 450), tells us the islands of St. Paul, St. Helena, Ascension, and Tristan da Cunha, are the wrecks and ruins of a submerged continent; Dr. A. E. Brown, "*American Big Game*" (p. 87); N. J. Krishtafovitch, "*La Dernière Période Glaciaire*" (p. 293); Dr. F. Mibt, "*Greenland Ice Fields*" (p. 12), and J. L. Lobley, "*American Fauna and Its Origin*" (p. 23), all plead for a lost continent. If it be admitted that animal life made its first appearance in the old world, and that the fresh-water fish in our far inland lakes and rivers, the snakes and reptiles in our great inland forests, the mammals, the bear, bison, moose and reindeer, were found everywhere in North America one hundred years ago, then, as a corollary, the existence of a land with rivers, lakes, and mountains, between the old world and the new, must be conceded.

Even that close reasoner and scientist, Professor Lydker, contends that only by a land bridge (Atlantis) across the Atlantic could the ancestors of the Santa Crucian Polyprotodont reach this continent.†

If it can be proved, and we think it can, that this great and wide causeway between Europe, Africa, and America, was inhabited by members of the human race, then the "Origin of the American Indian" ceases to be a problem baffling solution.

* "Distribution and Origin of Life in America," p. 14. Constable & Co., London.

† Geological History of Mammals," p. 112.



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